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QUALITY OF U.S. EDUCATION INFORMATION

HEARINGS

BEFORE THE

SUBCOMMITTEE ON GOVERNMENT INFORMATION AND REGULATION

OF THE

COMMITTEE ON
GOVERNMENTAL AFFAIRS
UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

OVERVIEW OF NATIONAL GOALS
OCTOBER 23, 1989

AVAILABILITY AND QUALITY OF NATIONAL EDUCATION DATABASES
NOVEMBER 1, 1989

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QUALITY OF U.S. EDUCATION INFORMATION: OVERVIEW OF NATIONAL GOALS

MONDAY, OCTOBER 23, 1989

U.S. Senate,
Subcommittee on Government
Information and Regulation,
Committee on Governmental Affairs,
Washington, DC.

The Subcommittee met, pursuant to notice, at 9:32 a.m., in room SD-342, Dirksen Senate Office Building, Hon. Jeff Bingaman, Chairman of the Subcommittee, presiding.

Present: Senator Bingaman.

Also present: Senator Simon.

Staff present: Edwin Jayne, Staff Director; Carole Hardwick-Schneier, Chief Clerk; Carrie Billy, Professional Staff Member; Elizabeth Powell, Detailee; Ann Schnittker, Secretary; Richard Ashooh, Minority Professional Staff Member.

OPENING STATEMENT OF SENATOR BINGAMAN

Senator Bingaman. This hearing will please come to order.

I believe at least one other Senator is going to join us this morning even though a lot of people are travelling, coming back into Washington.

Today our Subcommittee begins a series of hearings on what I believe is one of the most important issues facing the Nation today, that is, the quality of children's education and the Federal Government's role in helping to improve education.

Fundamental to a realistic assessment of educational quality is an assessment of U.S. education statistics and information-gathering efforts. Unfortunately, this vital first step is often overlooked. Throughout Government, a real effort is needed to update and improve our information infrastructure, whether it is information about our economy, our trade relations, our international competitiveness, or our domestic programs, and that focus is one that this Subcommittee was given when it was set up by Senator Glenn earlier this year.

To the fullest extent possible, the data bases that we have must be capable of supporting the public policy decisionmaking process whether that is at the Federal, State or local level. And now, as Congress and the President and the Nation's Governors wrestle with plans for setting national goals and standards for educational excellence, all of us are asking the obvious questions about what we presently know about the performance of our students; what we need to know, and what will we need to know in the future; what we know about the performance of students in other countries, and what is the Federal Government's role in finding out these facts.

Out of last month's Charlottesville Summit came a commitment to establish a plan for achieving national education goals and standards. To fulfill this commitment, the Nation's Governors acknowledge that we need clear measures of performance; we need to issue annual report cards on the progress of students, schools, States, and the Federal Government.

I'd like to add an additional component. If this ambitious but critical plan is to be realized, we must develop an educational information infrastructure capable of supporting these goals and standards and importantly, one that is capable of assessing them. Chester Finn in his testimony today puts it very well when he says that goal-setting is a hollow exercise without an information feedback system linked to it.

Since the Carnegie Foundation's team of experts first declared the Nation a "nation at risk" 6 years ago, we in the Federal Government have spent a great deal of time talking about the risk. We have left most of the action to States, communities, schools and parents. And many believe, myself included, that we have not done all that we could or should have done. According to parents in my home State of New Mexico and across the country, gaining access to the type of information they need to assess where their children are and what type of education they are getting relative to others is very difficult, if not impossible.

Parents hear reports daily about how their children are falling behind their international counterparts, about how they lack basic math and science skills, about how they cannot read or speak English correctly, much less a foreign language. Yet when these parents seek specific information on what their children are learning or how they compare to students in neighboring districts or States, the type of comprehensive, useful information that they need is not available.

In May of this year, the Secretary of Education issued the sixth annual so-called "Wall Chart," and when he did so he made several statements which I thought were interesting. He said our biggest stumbling block to improving education is that the Nation still has not recognized that we have an educational deficit. These issues should be discussed on a local level every day, and parents should call schools and ask how they are doing on these indicators.

I think my own view is that at the present time this is not a realistic request to make of our Nation's parents. Usually, when they make such a call, if they do, they cannot get accurate information, or they can't get information of any kind, and when they do I think it is becoming clearer to all of us that the information they get is not useful.

There is a report that was recently issued by a gentleman in my home State of New Mexico, called "Friends for Education," John Jacob Kannell, the "Lake Wobegone Report," as he called it. Based on his analysis, he says, "We conclude that 48 of the 50 States are still scoring above national norm on standardized, nationally normed achievement tests 2 years after the original Lake Wobegone study." Then he goes on to say that these Lake Wobegone tests, which are nationally normed tests, let parents, the press, the board of education and State legislatures believe that their State is not part of a Nation at risk.

I have a few other comments to make in my opening statement, but I think I'll put those in the record at this point and just underline my basic point, which is that through our Subcommittee on Government Information and Regulation, we hope to help the process of identifying what information is needed, and what steps the Congress needs to take to be sure that information is available on a timely basis so that proper policy can be made. I hope this hearing today will help to move us toward that end.

[Prepared statement of Senator Bingaman follows:]

PREPARED STATEMENT OF SENATOR BINGAMAN

This hearing will please come to order. Today, this subcommittee begins a series of hearings on one of the most important issues facing our nation today: the quality of our children's education and the federal government's role in their education.

Fundamental to a realistic assessment of educational quality is an assessment of U.S. education statistics and information gathering efforts. Unfortunately, this vital first step is often overlooked. Throughout government, a real effort is needed to update and improve our information infrastructure, whether it is information about our economy, our foreign policy, our international competitiveness, or our domestic programs.

To the fullest extent possible, our data bases must be capable of supporting the public policy decision-making process. And now, as the Congress, the President, and the nation's governors wrestle with plans for setting national goals and standards for educational excellence, all of us should be asking some key questions:

(1) What do we now know about education in this country?

(2) What do we need to know, and what will we need to know in the future?

(3) What is the federal government's role in this process?

Out of last month's Charlottesville Summit came a commitment to establish a plan for achieving national educational goals and standards. To fulfill this commitment, our nation's governors acknowledged that we must establish clear measures of performance and issue annual report cards on the progress of students, schools, states, and the federal government.

I would add an additional component: If this ambitious, but critical, plan is to be realized, we must develop an educational information infrastructure capable of supporting these goals and standards and, importantly, capable of assessing them. This is a significant undertaking for the federal government. If we are to ensure its success, we must link our goals and standards to federal information data bases.

That the federal government has a role in education—and that its role is becoming increasingly more important—are facts beyond dispute. In the words of the Carnegie Foundation's landmark report, we are "A Nation At Risk." And as a nation, we must respond to that risk. If we do not, we as a nation—not only as individuals, or families, or communities, or states—lose.

We lose every time a 4-year-old in New York is turned away from his chance at a head start. We lose every time a 13-year-old in Kansas drops out of school. We lose every time a 17-year-old in New Mexico graduates from high school without the ability to read. We lose every time we let an opportunity to educate slip by.

We lose for one very simple reason: education is the key to success. Without it, we have nothing; with it, we can have everything. Whether success is measured in terms of an individual's search for job security or a nation's quest to remain internationally competitive, education remains the key. Unfortunately, we as a nation, and the federal government in particular, have done little to encourage, much less assure, that success.

Since the Carnegie Foundation's team of experts first declared our nation at risk six years ago, we in the federal government have spent most of our time talking about the risk. We have left the action to states, communities, schools, and parents.

In the one area that we may have been equipped to help—the collection and dissemination of useful information on educational trends, needs, and progress—many believe we have not done all that we could. According to parents in my home state of New Mexico and across the country, gaining access to this type of information is difficult, if not impossible.

Parents hear reports daily about how their children are falling behind their international counterparts, about how they lack basic math and science skills, about how they cannot read or speak English correctly, much less a foreign language. Yet when these parents seek specific information on what their children are learning and how they compare to students in the neighboring districts and states, the type of comprehensive, useful information they need is unavailable.

It seems that everywhere they turn—and everywhere I turn—the information is vague and uncoordinated. For example, a wealth of information has been collected by the National Assessment of Educational Progress, but that information is basic and general in scope. It tells us that nationally, one-fourth of our seventh and eighth graders cannot add, subtract, multiply or divide whole numbers well enough to perform everyday tasks. But NAEP cannot tell us how kids in Albuquerque compare to kids in Santa Fe. And it cannot tell us what kids in either of these cities should be aspiring to.

Is a proper educational goal the attainment of simple math skills by "x" percent of our students nationally, or is the more proper goal one geared toward the individual student and his or her ability to achieve? I do not know the answer—but as a parent and a legislator, I have ideas. During today's hearing and the hearings to follow, I look forward to exploring this and related questions.

Already, I am optimistic that this exploratory process will lead to action. During the past few months, we have heard a lot of talk about "educational excellence" and the need to establish—and achieve—national goals for educational attainment. I am heartened by the renewed commitments to education that have been made by the nation's governors, the President, and the Congress. I am heartened because finally, together, we may be beginning to take real steps toward improving the quality of education for our children.

Yet, as we begin the task of improving education, we must not forget that any rebuilding or reform effort must first begin with a firm foundation—a baseline—from which growth can be charted.

I believe, and I would like today's witnesses to discuss whether they agree, that we must begin this process of educational improvement or reform with a thorough assessment of where we are now. Once we have a comprehensive, coordinated assessment of our educational system, then we must develop a plan. We must decide where we want to go—what our goals should be—and, importantly, we must decide how we are going to get there. If we do not establish this baseline and commit ourselves to developing a clear, comprehensive and realistic plan, then even the best attempt at reform will fail.

During this series of hearings, it is my hope that we can begin laying the foundation for meaningful reform through a two-fold discussion: first, by discussing existing federal efforts of assessment, such as national testing and information gathering; and second, by discussing methods for improving educational assessment and ensuring that our assessments truly reflect our goals.

I look forward to an interesting and enlightening morning of testimony and would now like to call our first witness, Mr. Christopher Cross, the Department of Education's newly-appointed Assistant Secretary for Education Research and Improvement.

Senator BINGAMAN. Our first witness is Christopher Cross and he is accompanied, by Jean Griffith, who is the Acting Director of the Division of Cross-Cutting Education Statistics and Analysis, and David Sweet, who is the Director of the Elementary and Secondary Outcomes Division, both of the Department of Education.

Mr. Cross testified before our Subcommittee on May 15 on the quality of Government information, and he gave excellent testimony. We welcome him again today in his new capacity as Assistant Secretary for Education Research and Improvement at the Department of Education.

We look forward to hearing the views of the Department today. If you could come forward, please, we are anxious to hear your testimony.

I would like to mention to you and to each of the other witnesses that I do have the prepared testimony that was delivered, and have had the opportunity to read it. So if you could summarize your testimony as much as possible we would appreciate it.

Thank you.

TESTIMONY OF CHRISTOPHER T. CROSS, ASSISTANT SECRETARY FOR EDUCATION RESEARCH AND IMPROVEMENT, U.S. DEPARTMENT OF EDUCATION, WASHINGTON, D.C.,[1] ACCOMPANIED BY JEANNE GRIFFITH, PH.D., ACTING DIRECTOR, CROSS-CUTTING EDUCATION STATISTICS AND ANALYSIS DIVISION, U.S. DEPARTMENT OF EDUCATION, AND DAVID SWEET, DIRECTOR, ELEMENTARY AND SECONDARY OUTCOMES DIVISION

Mr. CROSS. Thank you, Mr. Chairman.

It is indeed a pleasure to be back here again before the Subcommittee. I am very appreciative of the attention and the time which you are taking to examine this very important issue.

I might mention that you made reference to the "Nation at Risk" report of 6 years ago. That in fact was a report which was commissioned by the Department of Education under the former Secretary, Ted Bell. Carnegie work has both preceded and come after that, but that particular report was in fact one which came out of the Department.

Senator BINGAMAN. I appreciate that correction.

Mr. CROSS. Thank you, and I look forward to talking with you about these issues this morning.

In your letter, you conveyed concern about the availability and quality of education research and statistical information. That concern is shared by many of us both within and outside of the Government.

Last month in Charlottesville, as part of their "Jeffersonian Compact," President Bush and the Governors agreed that the Federal responsibility in education lies with two main tasks—one, to ensure educational equity, and two, to support educational research. Specifically, they said that the Federal role is to provide research and development for programs that work, to furnish good information on the real performance of students, schools and States, and to provide assistance in replicating successful State and local initiatives all across the United States. That indeed is specifically the area which we are talking about this morning, the area of educational research and statistics.

This was done in the context of the President talking about making American education the best in the world. In Charlottesville, they agreed that they would establish certain specific performance goals, and that is a process that will be going on in the next several months.

I should hasten to mention that at Charlottesville, they did not establish those goals, but rather established a process for developing what they termed an ambitious, realistic set of performance goals that reflect the views of those with a stake in the performance of our education system.

The President and the Governors did, however, point to seven areas in which performance goals would likely be set. The first is to increase children's readiness to begin school. The second is becoming internationally competitive in mathematics, science, and other essential subjects. Third is to reduce the dropout rate and improve the academic achievement of disadvantaged students. Fourth is wiping out adult illiteracy and beefing up the intellectual capital or competence of the work force. Fifth is ensuring a healthy supply of well-qualified teachers. Sixth is employing up-to-date technology. Seventh and finally is establishing orderly, safe drug-free climates for learning in school.

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[1] See p. 85 for Mr. Cross' prepared statement.

I do believe that these in fact are the seven right goal areas. While concentrating our efforts in any one of these goal areas would be insufficient, the combination of all of them taken together should allow us to move forward in some very impressive and very major ways.

I would also like to ask that the President's address in Charlottesville, the compact statement issued by the President and the Governors, and other documents be submitted for the hearing record,[1] and I have passed those to your staff.

Senator BINGAMAN. We'll be glad to include those.

Mr. CROSS. Thank you.

Mr. Chairman, the administration also has encouraged goal-setting at the State and local levels. I could point to Illinois, South Carolina and Connecticut as States that have already established their own goals for students and for schools. In addition, the Southern Regional Education Board has established in a report last year called "Goals for Education: Challenge 2000" [2] another set of indicators which they believe are appropriate in their States.

Just to give you an idea of how this might work, one of the five indicators they mentioned was to increase the percentage of students taking Algebra I by grade 10 to at least the percentage of graduates who enter postsecondary programs, and then to establish in every institution of higher education appropriate standards for beginning college entry study and assessments to determine if students were prepared to begin this degree credit study.

I have also provided to you and your staff a copy of the Southern Regional Education Board report, which I think is another interesting example of what can be done along these lines.

I am not advocating the particular goals which came out of the SREB report. What I think is more important is the process which went on there and the fact that it presents a paradigm, if you will, of what could be done in every State. I would suggest to the Subcommittee that the notion of States and indeed communities putting this kind of sustained effort into establishment of goals would be an extremely important understanding and undertaking.

Coming out of the goal-setting, of course, will be a concentrated, all-out effort—and I do want to emphasize the word "effort"—to achieve the goals which are talked about. It will take parents becoming full partners in the education of their children, including offering families a choice among schools, and it will require that we teach deep understanding of fundamental knowledge, helping youngsters understand not only when the Civil War occurred, for instance, but why. And it will require giving schools the leeway and freedom to figure out how to teach such things to all their students and holding them accountable for the results.

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[1] See p. 213.
[2] See p. 393.

If schools are to do this and to do it better each year, they must receive accurate, timely and useful feedback about their students' progress as well as topnotch information from research, state-of-the-art, practice and statistics.

This brings me to two of the questions in your letter, Mr. Chairman. You asked about the availability and quality of information needed for developing and assessing national education goals and about the information systems that will be needed to set national standards and to assess progress.

These questions pertain to the statistical side of OERI, specifically the National Center for Education Statistics (NCES). In recent years, NCES has considerably strengthened its ability to operate; in fact, the budget for NCES over the last 5 years has increased more than triple.

Today, the quality of NCES data has been improved as has its timeliness so that it is regularly cited by both policymakers and the media. But there is still much that can be done within NCES. Currently, although it is responsible for one of the most central roles of the Federal Government in education, there are many areas where we need to put more resources and more attention to improving the statistics and reporting system. And it appears that coming out of the Charlottesville Summit, it is very likely that there will be more attention given to the role of NCES when it comes to responsibility for assessing and reporting that information.

One of the examples of the things which NCES has done recently is the report submitted to the Congress last month on dropout rates in the United States. The report establishes three measures of dropout and lays the groundwork for construction of a comprehensive system to monitor all three dimensions of dropouts over time.

A second example pertains to international comparisons of learning and schools. Under the auspices of OECD, NCES is involved in an international effort to develop indicators. That will permit international comparisons of various features of schools and students, including student outcomes and student attitudes.

Also, NCES is preparing for two new major international studies. One will compare the reading performance of fourth graders and ninth graders in 40 countries; that will be conducted in 1991. Also to be conducted in 1991 will be a comparison of mathematics, science and geography among 9-year-olds and 13-year-olds in 20 nations including, we hope, the Soviet Union and China who would for the first time be participating in studies of this nature.

The third example of what we can do to measure performance of our students within the United States involves the work by the Department to establish education indicators. And in fact the Secretary has only recently appointed a task force on this matter which is chaired by the New Mexico Chief State School Officer, Alan Morgan. That group will be meeting here in Washington in about 4 weeks to hold its first set of deliberations aimed at producing for the Congress in 18 months a report on the establishment of educational indicators.

Finally, I would like to mention the example of a study or a piece of work which is being done and which you mentioned in your opening statement—the National Assessment of Educational Progress, known as NAEP. NAEP is likely to be one of those very important building blocks for creating a system to gauge the Nation's progress towards our goals for student learning.

As you know, we are in the process of expanding and strengthening NAEP. The Hawkins-Stafford Educational Amendments of last year provided by 1990 that NAEP will allow us to compare eighth graders' performance in mathematics on a State by State basis, and in 1992, NAEP will permit us comparisons of fourth graders in reading and mathematics at the fourth and the eighth grade level.

We believe that these new data from an expanded NAEP will afford considerable insight into the state of learning across the United States.

I should mention, however, that those examples of 1990 and 1992, State by State comparisons, are optional, so we do not have in fact all of the States signed up. For the 1990, we at the moment have three States, the District of Columbia and two Territories who have agreed to participate in that State by State comparison in mathematics.

Senator BINGAMAN. On that point, I saw the statistic somewhere that 11 States had opted not to take the National Assessment of Education Progress tests. But you are saying that even those that opt to take it do not have to agree to sign up for the State by State comparison; is that right?

Mr. CROSS. Yes, that's right. Dr. Sweet is familiar with the details on that. As I mentioned, there are 38 who have agreed. Part of the issue is that States have to put up some funding themselves.

Senator BINGAMAN. Thirty-eight have agreed to the State by State comparison?

Mr. CROSS. That's right, plus the District and two Territories.

Senator BINGAMAN. So my figure of 39 is incorrect.

Mr. SWEET. Thirty-nine had been the old number, but Nevada dropped out because of a lack of resources.

Senator BINGAMAN. How much longer do States have to drop out?

Mr. SWEET. The actual assessment is in February. They notified us last month that they would not be able to go forward.

Senator BINGAMAN. All right. Go ahead. I am sorry to interrupt.

Mr. CROSS. No, that's fine. Basically, we should have no more dropouts at this point, unless there is something major which occurs.

Let me just close by saying that one of my goals for programs within OERI is to do a better job of putting research into practice. That means that we must make the research that we perform driven by the needs of people in the field. We are going to be making educational research information easier for teachers, principals, parents, policymakers and other audiences to use.

Another goal of mine is to increase collaboration not only within OERI but in fact across the Department and across the Government.

The importance of education is just too great to permit it to be constrained by the narrow, bureaucratic organization of Government.

I might also note that the Office of Education Research in addition to the National Center for Education Research and Educational Statistics also supports the Office of Research, which has 21 research centers located around the country; it administers 9 regional educational laboratories, 16 education information clearinghouses and a variety of other programs that are aimed at improving the quality of education information and to provide resources to school districts to engage in educational improvement activities.

Mr. Chairman, I read your letter as an indication that you would be interested in what the Department and OERI have done and are doing and plan to do to advance the Nation toward the seven goal areas set by the Governors and the President. I would like to request that the hearing record be held open so that I might submit a more detailed description of what we are doing in each of the seven areas identified in the Charlottesville statement, and we will have that to you within the next few days.

I would like to thank you for inviting us here today, and I will make myself available, as will my colleagues, for any questions you may have.

Senator BINGAMAN. Thank you very much. We will have the record open for a couple of weeks. We would be pleased to have you supplement your testimony.

You indicated correctly that under the law as written, the participation of States in the National Assessment of Educational Progress is voluntary. Should it be? Should we mandate that all States participate in this?

Mr. CROSS. I think after we go through an experience of having the States do it on an optional basis in the first round or first couple of rounds, I think then we can be in a position to be able to say, all right, we've solved the problems, we've dealt with the issues, and perhaps at that point it could be made mandatory. But that is also going to have to require some additional funding because right now the States are putting up between $70,000 and $100,000 of their own money in order to monitor and administer—or they will in 1990—to administer the program within their own States. And I think there is some question about resources here.

Senator BINGAMAN. But the amount you mention, $70,000 to $100,000, doesn't seem to be a major obstacle, or shouldn't be, considering the amount of money the Federal Government spills. In Nevada's case: did they drop out because they didn't have the $70,000 or $100,000 they needed to spend on this, or are there really other reasons?

Mr. SWEET. As we're told, it's really because they did not have the resources; in fact, they had a budget dispute, and they were not able to put together the $70,000 to $100,000.

Let me clarify what the State obligations are for the administration. They can pay for it in cash or in kind—that is, they can actually have someone else do the administering, and they pay it out, or they can actually have their own people do the administering. But they may not use Federal resources. Places like North Dakota, for example, have extreme difficulty because most of the——

Senator **Bingaman**. And that's in the law, or——

Mr. **Sweet**. That's right. That is in the law, that is in the law.

Senator **Bingaman**. That is in the law, okay.

Mr. **Sweet**. North Dakota, for example, has extreme difficulty because almost all the employees in the State Department of Education are supported in part by Federal funds, and they had to make special arrangements in order to participate.

Senator **Bingaman**. It seems to me that the prohibition against any Federal money going to accomplish this clearly national objective is a fairly contrary, misguided one. Do you have any position on that? Why shouldn't we repeal the provision of the law that limits States from using Federal dollars to accomplish this?

Mr. **Cross**. I believe when the Congress agreed to that portion of the law their concern was that States show that they were willing to buy in, if you will, both psychologically as well a financially, buy into that system. And I think that the result has been that we have had, even as recently as a few weeks ago, one State decide to come in, in fact, after the Charlottesville Compact, because of concern that now it was important to get on board on this issue.

I believe that consideration should be given to looking at whether or not that is a provision which needs to be retained. But there is a long history of NAEP not being conducted at the State level. When NAEP was first created, going back almost 20 years now, in fact it started as an interstate compact, it was prohibited from having information at the State level because there was such great concern about having comparative data at the State level.

Senator, good morning.

Senator **Bingaman**. I invited Senator Simon as he has a great interest and vast knowledge of these issues.

I have a few more questions, and then I'll defer to Senator Simon for his comments.

Senator **Simon**. And let me add I am grateful to the Chairman for inviting me here.

Senator **Bingaman**. I have a question about the legal prohibition against the data being broken down and analyzed below the State level so that you cannot compare school districts or schools or students. Again, that strikes me as a misguided provision. Do you have any view on that?

Mr. **Cross**. I think here we are truly faced with a problem of resources, because even doing it at the State level means we are going to go from a sample size in the past of 25,000 to 150,000, and that is only to get valid data at the State level. To have valid data at the district level would be several quantum leaps beyond that in terms of both sample size and cost.

In addition, when the legislation was being considered before the Senate Labor Committee, many of the organizations in the education field made the point to the Committee that the problem with doing it at the district level was that there was no necessary correlation between what NAEP would be testing and what the curriculum of specific districts might be. In fact, you might have a situation in which the focus of a district—and given our national heritage of local control of education—might lead to a considerable mismatch between the curriculum at that level and NAEP.

As a result of these concerns, the provision which you mentioned prohibiting the comparisons from being at that level was placed in the new law.

Senator **Bingaman**. Let me try to explain what I referred to a little bit in my opening statement and get your reaction to it. I understand the mismatch that you just identified, but it seems to me that we do have a basic mismatch between what we are trying to urge parents to do and what we are willing to provide them with in the way of information.

We have various statements out of the Charlottesville Summit saying that we must establish clear measures of performance and issue annual report cards on the progress of students, schools, the States and the Federal Government.

Now, I assume that they listed students separate from schools, and schools separate from States, they meant that some way or another we should be able to measure performance down to the school level and to the student level and thereby give a parent some meaningful information with which to compare his child's education with that of children in other areas.

Is that what we ought to be aiming for? What are your thoughts on that?

Mr. **Cross**. Well, one thing I think we have to acknowledge is that many, many States have in fact statewide assessments that take that information down to the individual child level.

Senator **Bingaman**. But are these the nationally normed tests where 95 percent of the kids are better than average?

Mr. **Cross**. Yes, this is referred to by name as the "Lake Wobegon" effect. It is not quite that high, but certainly the problem of norming those tests and of renorming them is a considerable one. But in fact what it does give us, though, is information down to the building and to the classroom and the student level. This does provide comparisons one to the other, without even looking at whether or not they are compared to the "norm," if you would, of the 50th percentile.

One of the issues that clearly emerged from Charlottesville concerns the discussion between the Governors and the administration about what the Federal Government will be doing and what the States will be doing. And I believe it is fair to say that the Governors are very concerned about the opportunity the States now have to exercise their prerogatives, especially as this relates to how the educational system is in fact a State system in this country; it is not Federal.

Senator **Bingaman**. But just to push that a little bit further, is it reasonable for a person like myself to think that our goal should be to provide information that is statistically valid, is not weighted one way or another, that is properly arrived at and that can and does permit comparisons across State lines and does let you know whether a student in Alaska is getting as good an education as a student in Mississippi or in Maine or anywhere else in the country, and also allows us to make a comparison of the performance level of students in a grade school in Albuquerque with the performance level of students in a grade school in Frankfurt. Now, is that a reasonable thing for us to be trying to accomplish, or is that not a good goal, in your view?

Mr. CROSS. Are you referring to Frankfurt, Kentucky or Frankfurt, Germany?

Senator BINGAMAN. I was thinking of Frankfurt, Germany, but even Frankfurt, Kentucky would be, as you say, a quantum leap from where we are today.

Mr. CROSS. Yes, right. Well, I think we do have here many things which need to be worked out relative to the whole issue of curriculum reform, curriculum establishment, and the role of the Federal Government again versus the States.

I think the Federal Government can provide some information at the level which allows comparisons to take place and can provide some information about what children are learning through these international assessments which will be going on in 1991.

But I think the issue of the Federal Government providing that information down to the school or even the student level is something that we do not have consensus on. I think we need to establish a consensus process, if you will, to determine whether or not that is the Federal Government's role or the State's role.

Senator BINGAMAN. Does the administration have a position on that? You say "we" don't have a consensus. By that do you mean the country doesn't.

Mr. CROSS. Yes, that's correct.

Senator BINGAMAN. But does the administration have a position on whether the Federal Government should try to accomplish what I described, that being to have standardized testing capability that would be nationwide and would provide useful comparative information down to the school and student level.

Mr. CROSS. At the moment the position of the administration is that this is something that belongs to the States.

Senator BINGAMAN. I have one other question and then I'll defer to my colleague, Senator Simon. There are four words that keep coming up in this, and I'm a little confused as to what they mean. There are "goals," then there are "standards," then there are "norms" and then there are "indicators."

Congress has set up a panel that is to meet next month to establish indicators. What does that mean?

Mr. CROSS. Basically it is going to be examining the paradigm provided by labor statistics where, as we all know, every month at two or three significant dates, we look at information coming out about what is the state of the economy.

In reality, that statement about the state of the economy is comprised of several different indicators which the Bureau of Labor Statistics or other parts of the Government look at relative to what has happened in a number of areas. I think BLS has like 9 or 10 different components of that monthly number which they report.

What we are going to be doing with this panel which Dr. Morgan is going to be chairing is to look at what are some of the indicators that we can look at at the national level which would give us a similar sort of picture of the state of education in the country.

Senator BINGAMAN. But there will not be indicators of student performance.

Mr. CROSS. Not at the individual student level, no. We would be talking about something that would be a higher level of abstraction, just as the Bureau of Labor Statistics does not report at the worker level, for example. They report some figures either on a quarterly basis or by States and metropolitan areas.

Senator **Bingaman**. The labor figures come out and say the average per capita income is—and they tell you what it is. That is a figure which obviously doesn't come down and tell you John Doe is making so much, but it is based on having determined what John Doe is making and what all the other John Does are making around the country.

Are we talking here about indicators as to how much multiplying a student is able to do when he completes the third grade in this country? Is that an indicator?

Mr. **Cross**. It could be one of the indicators. There could be many other indicators. Dropouts might be an indicator, for example.

Senator **Bingaman**. But it could get down to specifics which are testing student performance, I believe Chester Finn refers to them as cognitive learning outcomes, are we going to be setting indicators for cognitive learning outcomes?

Mr. **Cross**. Jeanne Griffith is working with this panel.

Dr. **Griffith**. We do expect the Indicators Panel to be advising us on how to create indicators on students, schools, States and the Nation. It would be analogous to the Department of Labor's unemployment rate. For example we could have a dropout rate that would be measured at the student level but would be aggregated to the national level, and perhaps the State level. The same would apply with schools: you might talk about school environment and have indicators of school environment that carry across the Nation and would be aggregated up to a national level, but would not report on a particular school in a particular State. We would certainly have indication of cognitive outcomes; these form the care of any education indicators system.

So I think that the paradigm that you are speaking of is exactly what it would be, that we would have information on all of the different levels that we are interested in about education, but the panel will be advising us specifically which topics they think we should be focusing on. And we also expect them to be advising us on State comparisons.

Senator **Bingaman**. I may come back with some more questions on this.

I'll defer to Senator Simon now to go ahead with his questions.

OPENING STATEMENT OF SENATOR SIMON

Senator **Simon**. I thank you, Mr. Chairman. I thank Senator Bingaman also for his willingness to provide some leadership in this area that is so important. He doesn't happen to serve on the Education Subcommittee but he has contributed as much in this field of education as any of us have.

In your opening statement, Mr. Chairman, you say "We must decide where we want to go, what our goals should be, and importantly, we must decide how we are going to get there."

Just one general observation that I will pass on to the Secretary when I next talk to him, but if you could pass on to him in the meantime, Mr. Cross. The summit meeting with the Governors was a good thing. There is a danger that that kind of thing becomes public relations rather than substance. I think the President and Congress can really do something, why not have a summit meeting right here in Washington, D.C., between the President and the members of Congress who are concerned about education?

There, we can really get hold of some of these issues and start doing some concrete things. The problem becomes more difficult because then we would have to talk about how we allocate resources, and we're going to have to be much more specific. It is much easier to say to 50 Governors: "You go out and do a better job in education." I think we have to be part of that process in a way that we have not been.

Now, as I read the goals here—and they are nice—with the exception of one thing, they lack in specificity. If I can use an analogy, I used a year ago this month about what you and I would call some near-misses—that's not the technical term—at airports—O'Hare had 30; Atlanta was second with 6; and on down—so I got a resolution adopted by the Senate—Senator Bingaman probably voted for it—asking the FAA to come in with specific recommendations on how we could make O'Hare safer. And they came in with a lot of very generalized things. And I said this is just a wish list; it has no meaning. What I need is a specific target and a date with it. So now, once a month, the FAA comes in and reports to me—they came back with that list. And I tend to think that that is what we need in these objectives that you have here. We need to be more specific. We need to have dates with it.

Now, I'm unloading all of this on you, and I realize that's not your obligation completely, but you play a role in this.

The second thing, and to follow up the question of Senator Bingaman, I recognize there are some political sensitivities in going within a State jurisdiction and when you say we can't go to every district in the Nation because of various problems you mentioned.

But couldn't we say every school district that has over 50,000 students, we are going to provide some measurements and let the Nation know? I think we really ought to know how Chicago schools compare to New York City schools and to Los Angeles schools. In Albuquerque and Santa Fe, I don't know what the student enrollment is or how we would do that. But I think we have to recognize that our number one problem right now—not our sole problem, but our number one problem—is in urban education.

Is there anything wrong with saying let's take—and I don't know what the number should be; you are the statistical expert—is there anything wrong with saying let's take schools with over 50,000 students, and we're going to measure them, and give the results to the Nation each year?

Mr. Cross. Senator, let me respond first to your comments about the Charlottesville meeting and the lack of specificity. Those seven areas which I mention in my statement and which I submitted to the Chairman for the record were goal areas where the Governors and the President agreed that specific goals would be established. The Charlottesville meeting did not attempt to come out with specific goals. For an example of this, I would commend to you both the Southern Regional Education Board's publication on goal-setting for their constituent States, as well as your own State of Illinois, then Connecticut, and several other States that have done some very specific things along those lines, where they have talked about dates, they have talked about specific goals.

Senator SIMON. And there is no question for the southern States, for example, and it seems a modest enough goal, four out of five college entrants really have to be prepared for college entrance; that does not seem an outlandish kind of a goal. And the State of Illinois is doing some things.

But it does seem to me as a Nation we ought to have some very specific goals, too.

Mr. CROSS. That process of consensus-building is part of what is coming from these meetings. I might also mention the National Assessment which we talked about earlier. The Hawkins-Stafford Amendments of last Congress created a National Assessment Governing Board—and Dr. Finn is here this morning and I believe will talk about that; he chairs that Governing Board—where part of their task involves building consensus around what some of the NAEP goals would be. I think the Congress rightfully looked upon the fact that there has to be consensus developed in this area.

You know from your service on the House side as well as over here that when the National Assessment, originally was created there was extreme fear among the States about establishing an assessment where there would be those State by State comparisons.

We have now gotten past that point to the point where the States now are willing to say, yes, we are going to accept the fact there will be State comparisons.

Going to the next level of looking at the school district level is yet another major leap. I think one of the issues that has to be addressed there is the difference in populations in the various cities. For example, if you take 50,000 and larger, you have some cities that are inundated with refugees like along the Mexican border; you have other cities—take Des Moines, Iowa—that are probably, I suspect, a lot less impacted by a population which has not had the advantages of coming up through the educational system.

Those issues have to be examined, Senator.

Senator SIMON. I understand. But it seems to me that if you list Des Moines, Iowa and San Antonio, Texas, we understand that there are differences between Des Moines, Iowa and San Antonio, Texas, and because of the fear that we might not understand that there are differences, we don't provide any kind of analysis and comparison. It seems to me that this is not serving the Nation well. I would hope we could move in this direction.

If I may follow up, how would we go about it—we could get a Congressional mandate to do that, but this is something we really should not have to have a Congressional mandate on. Is there some way just through decision by your department that we could go ahead and do that?

Mr. CROSS. No, I don't believe there is. I think this is an area and a toxic where the political process has to work its will, including working through the appropriate committees that you serve on in this body.

One of the issues which certainly hangs over any of these considerations is whether or not the establishment of goals down to that level would lead to a national curriculum. I believe we are all familiar with France, for example, where in fact the curriculum is very regimented in every school in the whole country. You can be sure at 9:15 on Monday morning that every fifth grader in France will be studying the same subject. That has not been the history and tradition in this country, and we have to have some very major safeguards to assure that what would come out of doing this would not be in fact the mandating of a national curriculum. I don't believe that the consensus is there to have that in this country at this time.

Senator SIMON. I agree with that, but there are at the same time national needs, and I think we have to meet those national needs. For example, an area that Pat Graham has heard me talk about before—foreign language need—you have heard me on this, too. When a fourth grader in Botswana, which we consider a developing nation, has had 4 years of foreign language education—more than the average college graduate in the United States—something is out of whack, and there is a national need. And somehow that has to be communicated. That ties in with this idea of the summit. I really hope that some of the people in your shop will talk about how we can really do something constructive. What we do not need is a summit meeting where Democrats and Republicans go in and come out, and we're fighting each other in the field of education.

What I do think is needed is for the President and some leaders in Congress to sit down and say what are national needs, what are national goals, and what should we be doing—not just simply shifting this off to the Governors, but what should we be doing here.

Mr. CROSS. Fine. I will convey your concern. And I might also mention the National Assessment, which we have talked about a great deal, is not necessarily the tool to provide information for all of those things which might be needed. For example, the National Assessment does not look at things like dropout rate, it does not look at things like school environment, it does not look at things like the drug-free nature of the school facility.

So I think we have to be careful that we are not looking at NAEP to answer all those questions nor indeed to put it under so many burdens that it cannot labor to do the thing that it was designed to do originally, namely to provide information on specific curricular areas at specific points in a student's career.

Senator SIMON. I thank you.

Thank you, Mr. Chairman.

Senator BINGAMAN. I have a couple of other questions. The overall concern that I have is that in a little over 2 months, we are starting into the last decade of the millennium, and I have the sense that we don't have a good baseline as to where we are in this country as far as the educational performance of our students is concerned.

My other concern is that when you look at what is planned—and I grant you that there has been a substantial increase in the effort at the Federal level in the last year or 2 or 3—it is really fairly paltry as compared to what the need is for information.

As I understand it, NAEP is going to be testing in 1990 eighth graders in 38 States—doing 150,000 tests. My information is that it is going to be a couple of years before we have the results of that testing. Is this because of the slowness of calculating or of putting together the information? Am I wrong about that? Will it be 1992 before we know what this shows us, and this is just eighth graders in math? Then, in 1992, we are going to test eighth graders in math, fourth graders in math and fourth graders in reading, and that's pretty much what we've got planned. Am I wrong about that?

Mr. CROSS. No. You are absolutely correct on what is planned. I might say that the plan is to have results in the 1990 eighth grade assessment in mathematics available within a year; it will not be 2 years.

Secondly, I would note that in fact what we are doing is following what the law establishes, and that says that——

Senator BINGAMAN. I understand. But I am wondering if Congress shouldn't go back and say that this is not enough. I mean, if we are going to be serious about upgrading the performance of our students during the decade of the 1990s, we've got to do more than just test eighth graders on how they're doing in math next year.

Mr. CROSS. Senator, I agree with you. I think that what happened in the Hawkins-Stafford Amendments of the last Congress was a toe in the water, if you will, in this area. I think that the situation has changed some since then. I think the whole question of Charlottesville and the compact between the Governors and the President may in fact call for a re-examination of that.

I would say, however, that if that is done that one of the things we have to be sure that occurs is that the resources are also provided to allow things to go forward in the way in which it is suggested or designed. And that has always been a problem, the gap between the plans and the resources to carry it out because expectations may be raised beyond the ability of the body to deliver.

Senator BINGAMAN. Let me also comment for just a minute on this national curriculum. I have seen some polls fairly recently where about two-thirds of the American public says they favor a national curriculum. Now, I think there is probably a lot of confusion about exactly what is meant by that. Would you agree that in certain core subjects that everyone needs to learn when they are in elementary school or in secondary, such as math, reading comprehension, that in those core subjects it would not be inappropriate to have national standards of performance. We might say by the time someone finishes the third grade—I keep saying third grade because my son just finished the third grade this spring—but by the time a child finishes the third grade, they are expected to perform at the following level in math. If that led to a standardization of teaching in math, I don't see that that would be the worst fate that ever befell us if it resulted in an improvement in education.

Are we in disagreement on that?

Mr. CROSS. No, we are not. In fact, I think that is part of what is coming out of the Governors' exercise of looking at establishing goals.

Senator BINGAMAN. But that would be a national curriculum in math.

Mr. CROSS. You can reach that in different ways. You could achieve having students learn a certain competency in the third grade, for example, in different ways. I think that is something about which we would want to be very careful.

Senator **Bingaman**. Sure, I agree. If they want to teach math one way or another way, just as long as the kids perform at a certain level by the time they reach a certain grade level.

Mr. **Cross**. Right.

Senator **Bingaman**. I myself don't see a problem with having that result in a national curriculum to that extent, and I just wanted to make that point. My information is that we don't have any national information as to foreign language instruction in this country. Is that correct?

Mr. **Cross**. I believe there is a transcript study which occurred as part of High School and Beyond (HSB)—Mr. Sweet, do you want to speak to that?

Mr. **Sweet**. We have transcript information collected in 1987 that shows the language taking of students in high school and junior high school, but not below then.

Senator **Bingaman**. And that doesn't measure performance—only the number of students who registered——

Mr. **Sweet**. Right—so many took French, so many took Spanish, so many took German and so forth.

Senator **Bingaman** [continuing]. At junior and high school.

Mr. **Sweet**. That's right.

Senator **Bingaman**. We don't have any information in grade school.

Mr. **Sweet**. That's correct.

Senator **Bingaman**. And we don't have any information at the college level—you folks I know don't do anything with college.

Mr. **Cross**. Yes, we do.

Mr. **Sweet**. Actually we have some at college level as well.

Senator **Bingaman**. Oh, you do have. You have information as to the instruction at the college level, the number of students who take different languages?

Mr. **Sweet**. That data is less rich, but it is also off a transcript study tied to High School and Beyond.

Senator **Bingaman**. We are getting a guffaw from Mr. Finn when you said "less rich."

Mr. **Sweet**. Apparently, it's laughable. I don't know.

Senator **Bingaman**. We'll wait and let him comment on what "less rich" means.

Senator Simon, do you have other questions?

Senator **Simon**. I just want to note that Chris Cross served in the House on the staff of our committee over there and served with distinction. You can pass along to Larry Cavazos that he made a good choice in selecting Chris Cross to head this particular division.

Mr. **Cross**. Thank you, Senator.

Senator **Simon**. And let me just add I think I referred to Pat Graham as "Pat Grant." We have a Pat Grant who is an educator in Illinois, and I do know the difference between the two.

Senator **Bingaman**. Okay. Well, thank you very much. We appreciate your testimony today. We have great hopes for your tenure in this new position.

Mr. **Cross**. Thank you. We appreciate being here.

Senator **Bingaman**. As our second panel, we want to welcome Patricia Graham and Chester Finn. Patricia Graham is Dean of the Harvard Graduate School of Education and also the Charles

Warren Professor of the History of American Education at Harvard University. Dr. Graham began her teaching career in Virginia, later taught in New York City. She has held various positions in university teaching and administration. In the spring of 1977 she was appointed by President Carter as the Director of the National Institute of Education.

Chester Finn is currently a professor at Vanderbilt University. His career included a variety of positions that combine his interest in education and public policy, among them, Assistant Staff Assistant to the President; Special Assistant to the Governor of Massachusetts; Counsel for the American Ambassador to India; Research Associate at Brookings; Legislative Director for Senator Moynihan, and recently, he served in the Department of Education as Assistant Secretary. He is currently Chairman of the National Assessment Governing Board.

We are very pleased to have both of you here. Ms. Graham, why don't you go ahead first, and then we'll hear from Mr. Finn, and then we'll have questions for both of you.

TESTIMONY OF PATRICIA A. GRAHAM, DEAN, GRADUATE SCHOOL OF EDUCATION, HARVARD UNIVERSITY, CAMBRIDGE, MA [1]

Ms. **Graham**. Thank you very much.

I am pleased to have the opportunity to testify today on the subject of the adequacy of the Government's information about education. Let me put it succinctly: There isn't enough information about education for the Federal Government to make as wise policies as I believe it might, both to improve education and to measure that improvement.

One principal reason for this is the decline in the resources which the Federal Government has invested in the area of research—by the General Accounting Office report, a decline of nearly 80 percent in real dollars in the last 15 years.

Furthermore, the Federal Government is the prime funder of educational research. There is no equivalent in the States, and in the private sector there is only one foundation which funds educational research solely, the Spencer Foundation in Chicago, and its annual expenditure rate is less than $10 million a year.

When the original discussion about the creation of the Department of Education occurred in 1867, one of the leading proponents, Ignatius Donnelly, a Congressman from Minnesota, called for the department's establishment, arguing that it would "illuminate the dark places of ignorance." I have always liked that quotation.

During the ensuing 122 years, the department has indeed provided a beacon, but I think its wattage has diminished relative to the area that requires illumination.

Three days ago, I attended the 350th birthday of the oldest public school in America, the Mather School in the Dorchester section of Boston, named for Richard Mather, an early Boston minister who came from a prominent New England family of divines. The school has accommodated itself over this 350-year period to waves of immigrants. Its chorus of 70 or so children stood on the platform on

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[1] See p. 97 for Ms. Graham's prepared statement.

Friday wearing flags of the nations from which different children attending the Mather School had come and sang their school song, which embodies the motto, "We can touch the world."

Today, the school has 560 students, 93 percent of whom have either free or reduced-price meals; 61 percent are black, 17 percent white, 10 percent Hispanic, 11 percent Asian.

Perhaps the dramatic peak came when about two dozen little kindergartners, 5 year-olds, all in the Vietnamese kindergarten, crossed the stage, individually presenting a long-stemmed red rose to Nancy Bush Ellis, who has helped the school.

The principal, Kim Marshall, enunciated the school's three goals serving this population at this time. The first, all children can learn, and each child has promise; the second, students learn best through active, hands-on experience; and the third, cultural literacy and exposure to the arts are critical to a good education.

Mr. Marshall is eager to achieve his goals, as he stated on Friday, but as he also added, his task would be eased if there were better research with which to help him.

Let me suggest six different topics of research in education in which the Government could play a leadership role that would help both Mr. Marshall as well as many others. Furthermore, it would help the Government, which needs this information if its policies are to be improved and if the education of American young people is to improve, as it must.

These topics are predicated on two premises. First of all, we are dissatisfied with the academic preparation of many of our young people today for the life that lies ahead of them; and secondly, we believe that changes in schooling are one, though not the only, way in which to improve that preparation.

In the longer paper I'd like to submit for the record, I make the case for broader Government policies for children to improve.

The six issues I want to talk about are these. The first is pedagogy, research in pedagogy. The second is research on curriculum; the third is on assessment; the fourth is on school site management; the fifth is an integration of social services at the school site, and the sixth is desirable curricula for educators. Let me say a word about each of those.

Pedagogy. If we want children to learn, we need to vary the pedagogy by which we expect them to learn. Traditionally, what we have done when we have had diverse children is to change the curriculum—a rigorous curriculum including foreign langauge for the gifted children, and a less rigorous curriculum for the ones we have determined are not gifted.

I think we need to reverse that equation. What we need to do is to agree on a curriculum that all children need to learn, and then we need to vary the pedagogy by which they are expected to learn it. We currently have very little research, practically none, funded by the Federal Government which looks at various modes of pedagogy by which diverse groups of children can learn. So pedagogy is the first area.

The second I think is curriculum. Although it is relatively easy to agree on what a common curriculum in mathematics might be—and that has taken us quite a while—it is much more difficult to agree on what common elements of curriculum are in other areas.

As some of us who have long memories of the Federal Government's interest in education will recall, for many years the Federal Government would not touch curriculum research, believing that, after the difficulties of MACOS and the National Science Foundation in the late sixties and seventies, this was not an appropriate arena for Federal educational research. I believe that is no longer the case if we are talking now about national goals and standards.

Senator **Bingaman**. Excuse me, I have a question on that point: Are you talking about research to determine what should be in the curriculum, or research to determine the way to accomplish the teaching of the curriculum?

Ms. **Graham**. I am talking about two different things. The first is pedagogy, that is——

Senator **Bingaman**. Right, that's the way to accomplish the teaching.

Ms. **Graham**. Right. And the second is what are the elements that we really think are important for everybody to know, and that is the curriculum issue.

Senator **Bingaman**. Okay.

Ms. **Graham**. And typically at the college level, we say we'd like students to have 4 years of English, 2 years of a foreign language, 3 years of social studies, but we never go beyond saying what the content of those years ought to be. Perhaps it would be desirable to have some general discussion about what the content of that kind of curriculum ought to be. It seems to me without some discussion of that, it is very difficult to establish national goals or national standards.

The third element is assessment. Assessment is what ultimately drives curriculum and pedagogy—that is, how children are going to perform on tests is a big factor influencing what is taught and how it is taught. We may not like that, but I think it is a reality. And if that is a reality, then there is enormous obligation for us to broaden the modes of assessment that we currently have.

Already this morning we have had very fruitful discussion of the National Assessment of Educational Progress, but there are many other forms of assessment besides that particular kind of test which could be extremely helpful to school teachers and school administrators in helping them improve the academic performance of their children. Much of the work that is being done in assessment of children's portfolios is an example of that.

The fourth is the decentralized management of schools, or what we call school site management. Everyone calls for school site management but it is extremely difficult to know precisely what school site management means, particularly in any large setting, particularly in the urban schools. We need to know much more about how that in fact can be made to work, particularly with the work force of administrators and teachers who are accustomed to a highly centralized form of management in most urban areas.

Fifth, integration of social services at the school site. Ever since the progressive education movement at the turn of the century, we have been talking about the schools as the center of community activities. We are talking about it again, but we haven't got many very good models of how this might function.

Sixth, what is a desirable curricula for educators; what are the knowledge, skills and values that we want our administrators and teachers to have. At the graduate level, almost all the work in education for teachers and administrators is done on a part-time basis, particularly in an evening course, a number of these evening courses adding up to salary increments. The one thing we know about that kind of instruction is that it is ineffective. What are some better forms of instruction?

To conclude, I think the task for all of us, for the Federal Government, for State and local government as well as many other agencies, including families and communities, is to increase the proportion of children who come to school healthy and ready to learn. Our children are our most precious natural resource, and if our Federal Government has programs to preserve and support our corn and our soybeans, then surely it must have ones to aid an even more vital resource—our children.

Today the corn is better served by the Government than the children. The explanation for this discrepancy lies largely in the political will that is mobilized behind farm subsidy programs and is yet to mobilize as effectively behind children. Our means both of mobilizing the political will effectively as well as determining which programs are wiser is through the collection of information, customarily known as research.

As the distinguished Chairman of Xerox, David Kearns, has observed in consternation: "No single feature of the education system is more shocking to business leaders than low levels of education research spending. We know more about pork bellies and soybean futures in this country than we do about our schools."

So I commend you, Mr. Chairman, and your Committee and encourage the Federal Government to support much more strongly such research in education both so that it can help Mr. Marshall and his colleagues at the Mather School and around the Nation, and so that it can fulfill Congressman Donnelly's promise to "illuminate the dark places of ignorance".

Thank you.

Senator BINGAMAN. Thank you very much.

Before we go to questions, let me call on Chester Finn to make any opening comments he wishes to make at this point.

TESTIMONY OF CHESTER E. FINN, JR., PROFESSOR OF EDUCATION AND PUBLIC POLICY, VANDERBILT UNIVERSITY, NASHVILLE, TN [1]

Mr. FINN. Thank you, Mr. Chairman, Senator Simon.

I don't think our panel meant to be disrespectful to the previous panel. It was that phrase, "less rich data," that really slew us. Those homeless people I passed on the way up from the railroad station might also be described as "less rich," but I think in fact they are very poor, and I would say the same about our postsecondary education outcomes data, which is what I think you were asking about at the time.

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[1] See p. 121 for Mr. Finn's prepared statement.

In the Civil War era that Dean Graham referred to, when Congress first created a little three-person agency called the Department of Education, the statute said that it was the duty of this agency to report on "the condition and progress of education in the several States."

That was a wonderful 19th century notion, that if you are reporting on the condition you must necessarily be reporting on progress, because things could only be going in one direction. Note though that State-level reporting by the Federal Government was a central responsibility of this new Federal agency.

Let me stipulate before going any further that while I am the Chairman of the National Assessment Governing Board, we haven't had time to clear my remarks through the Governing Board, so I don't know whether all 22 other members of the Governing Board would agree with what I am saying today or with the printed testimony that you already have. I know they are seized of some of these issues and problems, however.

As has been said several times, this is a timely, important and awfully necessary hearing on a very important issue that has been crystallized by the recent education summit. The summit, as has been noted, said that we should set national education goals in such areas as the performance of students on international achievement tests and the level of training necessary to guarantee a competitive work force. The summit also said we should have annual report cards and, as you noted, it specified that these would involve information about students, schools, States and the Federal Government.

I think this pairing of goals with report cards is certainly right. It doesn't do you much good to have goals if you don't have any information on whether they are being achieved or not. I don't believe you can have educational accountability without both goals and information feedback.

In order to do this, we are going to need a lot of information. Our information feedback is going to have to be very rich indeed.

We are in somewhat better shape today than we were 5 years ago in this regard. There is something of a renaissance under way in Federal education data-gathering. The National Center for Education Statistics, which is our primary information-gathering agency, is in far better shape than it was. But we are still in the early stages of this renewal. Most of the baseline data that you are inquiring about, Mr. Chairman, is today at best a dotted line on the page, and in many instances is a total blank.

In general, we are in better shape at the national level than we are at either the State level or the international level. We know a fair amount about the country as a whole. What we don't know very much about are the States in relation to each other and the country in relation to other countries.

Generally speaking, we are also in better shape with respect to what I'm going to call quantitative data about education than we are with respect to qualitative data. We tend to know how many of various things there are. Some people call this "bean counting." We do a lot of it, and we are getting pretty good at it. We also tend to know how much is going into the system, and we are in better shape in terms of knowing about the processes and activities within the system. But we are not yet in very good shape in terms of what educators call "cognitive learning outcomes"—that is to say, information about the skills and knowledge actually being acquired or not being acquired by students. That, I think, is what we most need to know if our goals are going to be meaningful and if our report cards are going to be useful.

You have a later witness this morning who makes the distinction in his printed testimony between "process" and "product" and comes down on the side of "process" as the thing he wants information about. I disagree profoundly. I think what we need more than any other single thing is information on the products of our education system and how adequate they are, whether they are getting better and whether they are getting better in relation to each other.

Our principal source of cognitive learning information at the elementary-secondary level is the National Assessment of Educational Progress. You mustn't even ask about the postsecondary level, where we have practically no information as to whether anybody is actually learning anything in our 3,400 colleges and universities.

At the elementary-secondary level, however, we do have NAEP, and it is in the early stages of a major overhaul enacted by Congress just 18 months ago in what, at the time, seemed like a pretty audacious thing to do. For two decades, the National Assessment had done a pretty good job reporting on national trends but had assiduously avoided reporting any information about individual States, let alone any divisions smaller than States. Indeed, NAEP was designed not to reveal any information about the political subdivisions of the country, and for two decades it scrupulously followed that design.

Eighteen months ago, Congress agreed to change this. It acted at the recommendation of the Administration, which in turn was following the recommendation of a blue-ribbon panel that had studied this, and also following the recommendations of the Chief State School Officers of the country, and also following the recommendations of the National Governors Association. Eighteen months ago, Congress agreed to begin to try to apply the National Assessment instrument to the task of State-by-State information gathering.

As you observed earlier, Mr. Chairman, the current battle plan for the State assessment part of NAEP begins this school year with eighth grade mathematics and proceeds on in 1992—this is a 2-year cycle under present law—to math at the eighth and fourth grade levels and reading at the fourth-grade level.

But note that, as late as 1993, which is to say 4 years from now, when the 1992 assessment data become public, we will still have no State-level information at the twelfth grade level in any subject; we will have no State-level information in science at any grade level; we will have no State-level information in such subjects as history and geography and writing and various other parts of the curriculum that will not be assessed at the State level under the current plan.

NAEP has a lot of strengths and capabilities. In my testimony, I spell out nine of them. It also has some weaknesses besides the ones I have already mentioned. In my testimony, I identify out eight of them, carefully trying to make the strengths outnumber the weaknesses by at least one.

And as I said, 18 months ago we thought we were embarked upon a major overhaul, and indeed it is. For NAEP this is a large, complex, challenging undertaking, fraught with risks and difficulties and anxiety around the country. State testing directors are in a tizzy about how their State is going to do on the eighth grade math comparison that is taking place this year. Will it be fair? Will the data be reported in a fair way as well as an informative way?

I think that this is a decent start. I also think that we don't have very many other instruments to turn to at the present time if we want cognitive learning outcomes information for the country and its subdivisions. But our current plan is not going to produce enough of it to provide even that baseline that you are asking about, let alone any real ability to track our progress toward the kinds of goals that I believe we are going to find ourselves setting for the United States in the very near future.

I think that is enough by way of opening comments. I'd be pleased to respond to questions as well.

Senator BINGAMAN. Thank you very much—thank both of you.

Let me just ask either or both of you, should Congress go back and mandate participation in this NAEP State-by-State assessment as we go into the last decade of the century? Does that make sense? Do you have a view on that, Ms. Graham?

Ms. GRAHAM. I think that ultimately, we need State-by-State data from NAEP. Whether the best way of getting it is a mandate for the Congress, or whether there is a political solution that can come to a voluntary participation, I think is a call best made by the Congress, but that such data should be available State-by-State is something that I certainly support in the future.

Senator BINGAMAN. Mr. Finn, do you have a view on that?

Mr. FINN. Senator, I don't think it is necessary to mandate it in order to get most and some day, nearly all States participating. The 12 States that don't have State-by-State eighth grade math data next year when it is reported for the other 38 States are going to wonder why they don't. I suspect that we are going to see a voluntary gravitation toward this over time, without the need to make it obligatory.

Making it obligatory, as Chris Cross pointed out, would also carry with it the need to fully fund it as opposed to keeping a State contribution, which is the current law.

Senator BINGAMAN. What would you estimate fully funding the State part of that participation would be? How much are we talking about? He mentioned the figure $70,000 to $100,000 per State. I assume that means a small State.

Mr. FINN. And that is for eighth grade mathematics only.

Senator BINGAMAN. Right.

Mr. FINN. That's a pretty good average. Let's say $100,000 a State; if all States participated, we'd be looking at $5 million more dollars. The current national assessment appropriation is $15 million. The current cost, I might note, is $19 million. There is a bit of a discrepancy right now between what it is going to cost and what has just been appropriated for it.

Ms. **Graham**. In 1978, I believe the appropriation was $4 million.

Mr. **Finn**. That's progress.

Senator **Bingaman**. I agree with you that there may very well be a gravitation toward more States participating. I just wonder, though, if that approach is adequate to the sense of crisis that some of us believe exists. If in fact this is the kind of an issue that the President is going to have an historical first summit with the Governors on and we hear a lot about the urgency of dealing with the problem, I wonder if it is adequate to just leave it to the next several years, when States eventually decide they want to participate.

I also assume that those States that opt out are the ones that most need to opt in. It may not be entirely true, but I know Mississippi opted out; I would assume Mississippi ought to opt in.

Mr. **Finn**. Mr. Chairman, there is a very sensitive matter of whether NAEP actually tests what a given State thinks it is teaching. One of the grounds on which a State might stay out is because it does not believe what is on the, let's say, eighth grade math test reasonably represents what that State thinks it is teaching during eight years of math. That would, in my opinion, be a legitimate reason to stay out of an assessment, if you really think you have a better curriculum than the one that is implicit in the National Assessment.

Senator **Bingaman**. But if you have a better curriculum than is implicit in the National Assessment, presumably your students will knock it out of the ball park.

Ms. **Graham**. No, that's not the way the National Assessment necessarily works, because if children have not been taught the particular kinds of questions that are likely to appear on the assessment, they may do badly on the assessment, although they might potentially have knowledge in other areas that the State believes is more valuable.

I think that is the misfit that Professor Finn is referring to.

Senator **Bingaman**. You folks are the experts but, it just seems to me that in a subject like mathematics where we are going to test students in February on how much mathematics they know in the eighth grade, or what their performance level is, I would hope that the National Assessment of Educational Progress would be designed in a general enough way that it would capture the facility that students have to use mathematics and to use mathematical concepts. I am a little suspect or skeptical of a State coming back and saying, "We don't teach math the same way other States teach math, and that's why our kids didn't perform as well as the other kids on the mathematical performance test." Am I wrong in thinking about it like that? Is it a question of how you teach it?

Mr. **Finn**. By and large you are right, and by and large I think a State that is not participating is going to have a lot of questioning citizens and business leaders and newspaper editors and so on. People are going to ask, "Why didn't we participate?"

What is on the National Assessment is put there through an elaborate, rather cumbersome but I think very important, consensus process in which people from the participating States actually come and take part in the design of the assessment.

It is possible—though math is the least likely place for this to happen—that a given State that, let's say, introduces algebra at the eighth grade level but defers some basic work with logarithms until the ninth grade wouldn't have itself ready for a test that maybe inquired into logarithms at the eighth grade level but didn't look at algebra. It is possible that a State does something in a different sequence or goes at it in a different way and actually would feel ill-served by this assessment. I don't think that is very likely in math, but perhaps in a science sequence, and certainly in a social studies sequence, it is entirely thinkable that a State would say, "You know, that's really not our curriculum that they are examining."

Senator BINGAMAN. I could see it in those other areas.

Senator Simon.

Senator SIMON. I regret that I have an 11 a.m. meeting, but when you talk about a $19 million cost, are you referring to this test that will be made this next year?

Mr. FINN. Yes, sir, the fiscal 1990 cost of all parts of NAEP total $19 million—Federal costs.

Senator SIMON. And presumably, if we were to do this at the high school level as you suggest, the cost would be similar—is that correct or is that not correct?

Mr. FINN. We'd be up in the $40-$50 million range if we did this at the other grade levels and subjects. Typically, NAEP does three subjects at a time in three grade levels. If we did all nine of those on a State-by-State basis, we'd be looking at a $40-$50 million federal cost. That is my royal estimate.

Senator SIMON. And when we talk about 38 States, Puerto Rico has more students than 27 of our States. Is Puerto Rico included or not?

Mr. FINN. Several Territories are, including the District of Columbia. I don't know——

Senator SIMON. I think we have an answer back there.

Senator BINGAMAN. Mr. Sweet.

Mr. SWEET. Puerto Rico isn't. Guam and the Virgin Islands are; American Samoa and Puerto Rico are not.

Senator SIMON. And they are just opting out on their own, or they have not indicated a willingness—if I may address this to Mr. Sweet.

Mr. SWEET. Guam originally said they were. The indications have been very, very rough, and for some reason, we got a letter saying that they would no longer be able to participate. The communications with Puerto Rico are not clear, but they originally said that they would not.

Senator SIMON. Could you let me know on that?

Mr. SWEET. Yes.

Senator SIMON. And then if I could just add one other comment, because I was going through Dr. Graham's prepared statement for the record, and one area it addresses—and I know it is not the subject today—is the interdependence of all these things. She says, "over half the children in America today will spend some part of their childhood in a single-parent family. Even the single child born into a two-parent family in which one adult works full-time at the minimum wage will live 11 percent below the poverty line.

Major increases, more than 1 million new poor children annually, came in the early 1980s. Recent Fordham University studies revealed that 1987 was the worst year for children in two decades. Poor children are less likely to be healthy than their more affluent compatriots, and their development is more likely to be rocky, particularly in terms of those mysterious but essential qualities of self-esteem and motivation. Children who are not healthy will have special difficulties in school. While it is the obligation of public schools to do as well as they can with every child, healthy or not, assured and motivated or not, the schools are much more likely to be effective with children who come to them healthy, assured and motivated."

I took some of these things out of context, but I don't think I abused what you had to say.

Let me just again, Mr. Chairman, thank you for holding the hearing on this. I think this is an area where we have to do better. And I think the real question is whether we really do have a crisis, whether there really is a sense of emergency here. And the difficulty with the education crisis, if I can use that word, is that it just kind of gradually creeps up on us. It is not like a San Francisco earthquake—all of a sudden it is there, and we can see it, and it is dramatic. We have an educational earthquake, only it has been a gradual thing, and its cost is infinitely greater than the San Francisco earthquake.

Thank you again, Mr. Chairman.

Senator BINGAMAN. Thank you very much. I appreciate your being here.

I think some of the response that Mr. Finn gave to Senator Simon there perhaps covers part of this, but if in fact Congress decided that it wanted to go ahead and have a meaningful, comprehensive ability to assess the improvements in education in this country during this next decade, that would mean we would have to do certain things in 1990 and beyond, and we would have to substantially beef up our ability to assess where we are and the performance of our students. What would be the outlines of a good program? You were talking about nine tests per year——

Mr. FINN. Every 2 years on the current plan.

Senator BINGAMAN. Every 2 years, we would do nine tests. At what grade levels would you carry out the testing?

Mr. FINN. The National Assessment now is operating at grades 4, 8 and 12, and it typically, as I said, it is conducted in three subjects at a time. For example, this current school year we are assessing reading, math and science, and in 1992 it will be reading, math and writing. Science skips over to 1994, when history comes on line as well. There is a sequence.

Senator BINGAMAN. Is the reading, math, and science tests that are being done this year in those three grade levels based on a 25,000 person sample?

Mr. FINN. Yes.

Senator BINGAMAN. So we don't have enough data to make State-by-State comparisons in anything but math based on this year.

Mr. FINN. That's correct at the eighth grade level.

Senator Bingaman. So the first thing to do would be to beef up the sample size so that we could do State-by-State comparisons in the subjects we test in; is that basically right?

Mr. Finn. If you want State-level baseline data, and I do and I think the Governors do, then yes, that would be the first thing to do to get it. Bear in mind that this is a slow process; even very rapid action on this front would involve the 1992 cycle rather than the 1990 cycle. The 1990 cycle is already locked in.

The State-by-State aspect is not the only area of national assessment that warrants some development and some improvement. For example, we are largely the prisoners of a multiple choice test format, and as Dean Graham has alluded, that cuts out a lot of the things we'd really like to know about what students can do, and therefore some research and development on better modes of assessment is indicated as well.

Senator Bingaman. Now, let me just make sure I understand this thing. In 1990 we will be testing math, science and reading at the eighth grade level——

Mr. Finn. Yes, sir.

Senator Bingaman [continuing]. And we will not be testing at the fourth grade and the twelfth grade, even the 25,000?

Mr. Finn. No, no. I guess I didn't make myself clear. We'll be doing math, science and reading at all three grade levels.

Senator Bingaman. But the only one that will be the large sample that will permit State-by-State comparison is at the eighth grade level.

Mr. Finn. In math.

Senator Bingaman. In math.

Mr. Finn. Yes, sir.

Senator Bingaman. So you are suggesting that we be in a position that every 2 years, we test three subjects, at least three subjects, at all three levels——

Mr. Finn.

Senator Bingaman [continuing]. Or are you suggesting we test more?

Mr. Finn. Well, as I said, what we started out to do 18 months ago seemed daring at the time. To add subjects and to increase above three subjects per cycle is even more daring. And we have some subjects left out. I would personally feel a lot better if we could produce State-level data in the subjects we are already assessing—reading, writing, math, science, and history. To add to those things like foreign languages, art and music would, I think, require a fair amount of development work up front in order to figure out how to assess them.

So it is a question of how much information do you want. To have State-level data in the five subjects I mentioned would be an amazing accomplishment.

Senator Bingaman. But if you had State-level data in the five subjects each 2 years, starting in 1992, that would be as much as the system could consume or possibly handle.

Mr. Finn. The system, also, would tell you that that would be a lot more than it could consume by 1992 and that you have discussed too large a plan. But that is, in my own personal view, the kind of plan we ought to be thinking through, yes.

Senator **Bingaman**. Should the information be broken down below the State level? Is that totally unrealistic? I asked Mr. Cross this, and he indicated that breaking the information down further would be another couple of quantum leaps ahead. In my State we have 88 school districts. Is it totally unrealistic to think that since we are going to be testing, it ought to be done in a way that various school districts could also know how they are doing relative to other school districts?

Ms. **Graham**. I think that is a cost question. That is a question of investment and how much the Federal Government wishes to put into this activity as opposed to other activities. My view is that it could certainly be done, but it is simply a question of cost, and whether this is the wisest expenditure of the Federal dollar in education.

Senator **Bingaman**. The reason that I raise it, and it seems to me it might be worth the cost, is we make a big thing out of the fact that local school boards are supposed to be in there, responsible for the quality of the schools. It seems a little unfair to go to your local school board and say we've got substandard schools here, or you folks haven't done what you should have to educate my child, if the local school board doesn't have any information about where the deficiencies are and how they are stacking up relative to other school districts and so on. If you are going to have policymaking at the local school district level, then shouldn't you provide information to those people who are making that policy?

Mr. **Finn**. A couple of points, Senator. As you know, there are almost 16,000 local districts across the country. And while New Mexico has 88, as you have said, Texas next door has about 1,000 all by itself, and Oklahoma has 600-some, most of them consisting of just one school, and with relatively small enrollments. At that level, to provide district-level data, you are in effect going to be testing every kid in the district. You will be moving far away from what we now think of as a sample-based test rather than an individual child-based test.

My own view of this is that Congress should consider lifting the prohibition that currently makes it impossible for States that want to use national assessment within the State. I believe that a reasonable next step would be to allow States that want to use these tests or items from these tests within the State for State assessment purposes to do so, which currently they cannot do under the statute. And if you want to go on from there to make some resources available to assist States that want to do this within the State, I think that would be a reasonable thing to consider.

I guess I am wary—this comes partly out of having been in Mr. Cross' job for a while—of asking the Federal apparatus to actually get itself together to produce data for 16,000 different units around the country with the awareness that every one of those units is going to want the data to be exactly correct.

Senator **Bingaman**. I can see it is a monumental undertaking, yes.

Ms. **Graham**. My wariness, I think, supplement's Professor Finn's in that good as the assessment is—and I think the assessment is pretty good; it is good for what do you call it—cognitive——

Mr. **Finn**. Learning outcomes.

Ms. **Graham** [continuing]. Cognitive learning outcomes. There are a lot of other things you want out of what happens to a kid in school besides the narrow piece that the assessment is currently constructed to address. Some of them are broader cognitive learning outcomes than even the assessment is good at getting at, and there are other activities that you want a child to get out of school that are cognitive at base, too.

I would very much value having local school boards and parents and the broader community involved in assessing the performance of the school along a broader base than simply that which the NAEP measures and would support activities that would bring in other kinds of assessment besides the NAEP at the individual building level.

Senator **Bingaman**. Well, I would certainly agree with you that perhaps there should be other assessments made, but I guess again I get back—and I am sounding like a broken record—to the question is it really fair to parents to say you should get more involved, you should be talking to your school, you should demand better performance by your school district, if we don't give them any information about how their school district is doing or how their school is doing, and the only information they get is through these commercially available tests that are totally inaccurate. So that is the problem.

It seems to me if we want parents to take an active part—and as I said, Dr. Cavazos points out that nobody seems sufficiently concerned about the quality of education—one way to get them concerned is to send them out a report saying yours is the 88th school district in the State as far as the performance of your students. That would get them concerned, I would think, if anything would, if you publicize that properly.

Mr. **Finn**. Senator, three or four States, I have actually seen them in California and Illinois—are now producing from the State level what they call school building report cards. Every school in the State has produced for it and made public a study of information about how that school is doing on various indicators including test scores. In California, for example, they use the California assessment program as data for this. They also look at completion rates and attendance rates and discipline rates. There is a variety of information that parents can get about their school from these school building report cards that the State is now generating. New Jersey has declared that it is going to begin to produce these kinds of report cards. These are made public as well.

If you made it possible for a State that wanted to do this to correlate its State testing program with the national assessment program, you would actually then have the makings of school building report cards on which parents could see how their school was doing in a national context without the Federal Government having to come in and administer the test. That would be my view of how this might work in a world in which all the States shoulder the responsibility of informing the parents, as some States are now doing.

Ms. **Graham**. Another example of this is Vermont, where the current Commissioner of Education, Richard Mills, is exploring the integration of the Vermont assessment with the NAEP and augmenting that with maintaining student portfolios. That is, it shows how a child's work has progressed over the course of a year and can be formally assessed as well, which is another variation on the same theme.

Senator BINGAMAN. Now, this idea of school building report cards, what you are saying, or at least what I am understanding, is that getting to the point where we have school building report cards for all school buildings in the country is a good thing.

Mr. FINN. Yes, sir.

Ms. GRAHAM. Yes.

Senator BINGAMAN. It is a question of how to get there and whether the Federal Government should try to get us there in a heavy-handed way or should provide some incentives with the hope that we will gravitate toward that over the next decade or two.

Mr. FINN. Yes, sir.

Senator BINGAMAN. But there is a general agreement that having that type of report would be useful.

Mr. FINN. In recent months I have seen news accounts of several other States resolving that they want to do this kind of thing also. But you might ask your capable staff to send for samples from places like California, they can actually send you sample school report cards, and you can see what these look like and then visualize how such an arrangement might be fostered around the country.

It is a very useful way of informing parents and voters and taxpayers about educational performance at the level that counts the most, which is the individual school.

Ms. GRAHAM. From the child's point of view, the child does not go to school in California. The child goes to school in "x" school in Compton. And from the child's point of view, that is what matters.

Senator BINGAMAN. Okay. Let me ask about the timeliness of all this information. I noticed in your comments here, Mr. Finn, you indicate that they are aiming to speed things up to 12- to 15-month lag time. Again, it strikes me that much quicker turnaround would be much more valuable as far as policymaking goes. If you are in the position of making policy, and information comes in that is a year or 2 years old, you can persuade yourself that this is old information, and we've done a lot to improve things around here, and there is really no problem that isn't being addressed, and you can sort of shelve it at that point and get on about your business.

If you got the test results from next February's test in time to plan for the next school year, you would perhaps take it much more seriously. Is there a major reason why we can't do this quickly? I mean, we've got the IRS handling I don't know how many tax returns nationally. With computer capability today, why can't we get this information out more quickly?

Mr. FINN. Senator, this is reminiscent of those times when I would ask one of my children why they weren't getting A's; instead they were getting B's. And I would get a lot of elaborate explanations as to why that particular paper didn't have an A on it, but nevertheless it did not. Mr. Sweet and others from the Department can give you the kinds of explanations that I listened to for 3½ years in the Department about why national assessment data is so slow to process, analyze and report. It is slow. I still don't believe that it needs to be so slow. It is partly a resource constraint. It is partly a technical design question of how that assessment is put together.

But, as I noted in my testimony, California's assessment program tests more kids than NAEP, and they turn their data around between May and August each year.

It is possible. It is not being done. I'm not sure I know why.

Senator **Bingaman**. What should Congress do to get it to happen? Everything we do is either micro-management or in some other way objectionable, but is there something that Congress should be doing other than just holding hearings?

Mr. **Finn**. Well, sir, you are acquainted with the tools available to you. You could try paying a bounty for early publication of data. I have never seen this done. Alternatively, you could have the money disappear in the sixth month after the test is given if the reports are not by then published. That would assuredly concentrate the attention of the Executive Branch.

Senator **Bingaman**. That sounds like a constructive suggestion. On the same question about the difference between goals, standards, norms and indicators which I posed to Mr. Cross, we have a panel that is supposed to figure out indicators: What are we asking them to do? Is there some accepted distinction between these terms that would let us know what we are up to? I'm not sure what the Governors will come up with, and what they are thinking about how specific their goals should be. Obviously, we'll just have to see on that.

There is a group that is starting to meet this month, and also NAEP has a group——

Mr. **Finn**. Governing Board.

Senator **Bingaman**. Yes. Wasn't there a direction given to NAEP a year or so ago to come up with goals or standards or something? Nothing has happened on that, right?

Mr. **Finn**. The Governing Board has about 10 statutory responsibilities. And the Governing Board, you should understand, has now existed for 11 months since it actually had its first meeting. One of its statutory responsibilities, if I can quote the statute, is to establish appropriate achievement goals for each of the grades and subjects in which the test is given. NAEP currently just describes where we are. The idea is that the Governing Board would say where we ought to be in that grade and subject level.

Senator **Bingaman**. This is in cognitive learning outcomes.

Mr. **Finn**. Yes, sir.

Senator **Bingaman**. Okay.

Mr. **Finn**. In other words, say we conclude that 60 percent of all eighth graders should be at level 300 on the NAEP scale rather than level 250, where they are today. It would give us a target, a goal, to shoot for.

In its own time, the Board will come up with such goals; it is its job to do so. The Board hopes and desires that this process be integrated in some way with what the Governors are up to. It would be a mistake for the Board to go spinning off all by itself, setting goals for learning outcomes if the Governors and others are doing similarly. I think these processes ought to be at least synchronized with each other.

Ms. GRAHAM. NAEP has also augmented in addition to the Governing Board which Professor Finn chairs by Congress' request the study being done by the National Academy of Education to offer guidance on the policies around the State-by-State testing that NAEP will undertake. So this is yet another point of view on the general question of goals, standards, indicators, et cetera.

Mr. FINN. A goal is simply a statement of where you would like to be. It is my goal to get to Santa Fe on Sunday because I have to go to a conference there. An indicator is a neutral measure of how rapidly you are getting toward a goal that you previously set. My measure of whether I get to Santa Fe on Sunday, my indicator, will be whether the plane flies 550 miles an hour to Albuquerque.

The other two terms you used, standards and norms, both carry with them the idea of prescription, that somebody is going to say where we ought to be, not just how fast we are moving, but where we ought to be. This would be a new thing in American education—indeed, I think is the missing piece in our reform efforts to date. We haven't actually paused to say what we think ought to come out the other end of our education system.

Senator BINGAMAN. Your understanding of what your Board has been directed to do is to establish goals and not standards.

Mr. FINN. I'm probably going to confuse yet again what I confused a minute ago. The Board sees the goals that it is supposed to establish as a statement of where the country ought to be.

Let me try it this way. If nothing else happens, the Board will use its existing tests and scales and come to some conclusion through a consultative and consensus process about where children ought to be on those scales as opposed to simply describing where they are, which has been the historic function of NAEP.

Whether anybody will take seriously the Board's view of where we ought to be, whether anyone alters their behavior in the aftermath of the Board specifying where it thinks we ought to be, is an open question. The Board has no enforcement mechanism; it has no policymaking mechanism in terms of what is taught.

Senator BINGAMAN. How is the Board going about the business of setting those goals? Do you have a staff dedicated to that, or how do you do that?

Mr. FINN. We don't know yet. In the first 11 months, our biggest job has been to try to decide what is going to be on the test and how the test is going to be conducted. The goal-setting part of it is something the Board has had a couple of preliminary discussions about. We do have a capable professional staff of eight, but they have the entire across-the-board responsibility including determining what is going to be on the test, which is probably the Board's foremost responsibility.

We don't know yet how we are going to set goals. Eleven months into it, we have had several preliminary conversations about how we might do this. Then the summit came along.

Senator BINGAMAN. How are you plugged into the Governors' effort to set goals? I don't know how they are going about it, either.

Mr. FINN. No one does.

Senator **BINGAMAN**. This is quite encouraging. You don't know how you are doing it, and they don't know how they are doing it, and nobody knows how either one of you are doing it.

Mr. **FINN**. I assure you that we will do our job, given another year or so in which to do it. The National Governors' Association have been in touch with us and vice versa; we are aware of each other and have made known our willingness and availability to assist them or work with them, and at this moment, the response is of the "We'll get back to you," variety, but with the tone of voice that suggests that they really will once they get their own processes settled.

Senator **BINGAMAN**. Well, let me ask one sort of final question to both of you or either of you. Congress has directed what will happen in the area of testing all to a fairly large extent, and I understand the politics of it is such that Mr. Cross testified that it would not be appropriate for the Executive Branch to make some of these decisions absent a Congressional direction or authorization to do so. He can't change the test that he gives or the size of the sample or a lot of these things unless Congress comes in and tells him to; I gather that is the political context we are in although I don't know. I don't mean that it is a legal restraint on him, but I gathered from what he said that it was sort of a political process that we had to go through to develop the consensus as to what we would do in these areas.

If that's wrong, correct me. But basically what I want to know is what Congress should do at this stage, starting in November of 1989, to gear up the Federal effort to do what the Federal Government should reasonably expect to do in the testing area in particular and also in the assessment area.

Ms. **GRAHAM**. Let me take a crack at that. I think it is important to recognize that the NAEP came about because after the original discussions about the Elementary and Secondary Education Act in 1965, Congress believed that it had no baseline data to know whether or not that Federal aid program was going to do any good or not. That's the origin of it. And there was enormous objection in the States at that time to any kind of reporting other than in the largest possible unit of analysis which is the United States of America.

That has changed, and that has changed dramatically in the last 2 or 3 years. So the question you are asking now about what Congress can do is germane. I would add that the issue about what Congress can do about testing is really a tip of the iceberg question.

I think the reason Congress is so concerned about testing is because Congress is dissatisfied with the academic performance of lots of American schoolchildren. And the real issue is not just testing; finding out more about testing is not going to improve their performance. There has to be more activity by Congress than just on the testing front to improve the performance of the schoolchildren. I would hate to see a conversation end on the subject of testing and the extension of NAEP without more attention to what the Congress can do to ensure that children learn more in school, and on that subject there has not been as much discussion or as much activity as seems to me to be justified.

Senator **Bingaman**. I agree totally with your comment. The reason I am focusing on the whole issue of information, very frankly, is not only that that is what our jurisdiction is, but that seems to be something that the Governors and the administration agree we properly have a role in. When you get into actually improving the schools as distinct from telling the schools that they are not improving, there is a lot of disagreement. As you know, we have had hearings here where Richard Darman has said there will be no additional resources for education from this administration; essentially, that's the position as I understand it. I think he's talking about any significant increases in resources, so perhaps increasing the resources of our information-gathering is something that would be acceptable and is something we could get administration as well as the Governors' support for. So that's what I'm talking about.

I agree with much that you said in your written testimony about how we ought to increase Chapter I funding, we ought to increase Head Start funding, and we ought to do a lot of these things.

Mr. Finn.

Mr. **Finn**. Senator, first let me say that I think by the end of its December meeting, the Board that I chair will have a collective recommendation about changes that Congress might want to consider making in national assessment; so it won't just be the chairman speaking on his own; at that Board meeting I think we will come to some collective view.

Secondly, I hope that you are going to invite in people like Governor Clinton and Governor Campbell and Governor Branstad to talk about this from the Governors' standpoint because I think theirs is a very important perspective to add to this discussion. As you do so, you may want to consider talking with your colleagues on the Labor and Human Resources Committee—certainly Senators Kennedy and Hatch and Pell have shown a very considerable interest in this topic—about reopening the statute under which these things are authorized, and doing so in a fairly timely fashion so that plans and the resources can then be generated.

In the previous instance, the Executive Branch took the lead in suggesting changes in this area. Perhaps it will again; I don't know. But the Congress could also take the lead here.

The previous time, as you also know, the main interest came on the Senate side. On the other side of Capitol Hill there was much wariness about these things. I don't know whether that has dissipated or not. But that is a consideration, too.

This is a very fast-moving target. Eighteen months ago we had what looked at the time to be audacious; we have an 11-month-old Governing Board; we have a month-old summit, and we've got a lot of things in flux. We've got hungry State officials wanting more information, and I think we ought to be helping them try to sate that hunger with more federally generated information.

Senator **Bingaman**. Thank you both very much. It has been very useful testimony, and we appreciate it.

Our next panel is Denis Doyle and Dick Corbett. Will you please come forward?

Denis Doyle is a Senior Research Fellow at the Hudson Institute. He was previously the Director of Education Policy Studies and Human Capital Studies at the American Enterprise Institute. In the Government, he has served as Assistant Director for School Finance and Organization at the National Institute of Education, and Director of the Education Voucher Demonstration Program at the U.S. Office of Economic Opportunity. He was the Project Director for the Committee for Economic Development Path-Breaking Study, "Investment in our Children: Business and the Public Schools." He is also the co-author of "Excellence in Education: The States Take Charge," and co-author of the recent book, "Winning the Brain Race," with David Kearns.

Dick Corbett is Co-Director of the Applied Research Project at Research for Better Schools. Mr. Corbett received his Ph.D. in Social Foundations of Education from the University of North Carolina in Chapel Hill. His research focuses on contextual influences in the implementation of education policies, programs and practices at the local level. He has recently completed a major study on school reform, which will be described in his forthcoming book, "Testing, Reform and Rebellion."

We appreciate both of you being here. Mr. Doyle, if you wish to go first, go right ahead.

TESTIMONY OF DENIS P. DOYLE, SENIOR RESEARCH FELLOW, HUDSON INSTITUTE, CHEVY CHASE, MD [1]

Mr. DOYLE. Mr. Chairman, I am honored to be here today. It is a pleasure to be with you. I will be mercifully brief.

I have been preceded by both distinguished and knowledgeable witnesses, all of whom I have worked with, and one of whom I have worked for, Dr. Graham; it is a pleasure to be in her company today.

Rather than repeating what she and Dr. Finn and others have said, let me simply note that I come to you today from, as it were, a business perspective. I am not myself a businessman, but I have worked very closely over the past 5 years with business leaders who are concerned about the quality of American education.

As you have noted in your gracious opening remarks, I had the privilege of being the Project Director for the Committee for Economic Development's study, "Investing in our Children", and was able to co-author with David Kearns, CEO of Xerox, the book "Winning the Brain Race," and last week, Business Week published a special supplement of 144 pages on education. Not surprisingly, the points are very much the same in each of these studies, not just because I was involved in them but because I think the issues speak for themselves. They are quite simple and quite straightforward, and they need not be complicated.

As David Kearns is fond of saying, competing in a global world economy requires a world class work force, and to have a world class work force we must have world class schools.

Drawing from the experience of the modern high-tech firm, which I think is the appropriate metaphor in terms of thinking about what our education system must look like and produce, it is clear that the procedures that they follow have a direct bearing on our schools and our Government entities that oversee what our schools do. Those have to do with setting goals. We have talked about what those are. They can be ephemeral, but they are critically important. No firm in the world could exist for a day without clearly specified goals, and certainly could not last very long without goals that are realized. That, of course, is the next step, to establish standards and devise ways to measure those standards, how they are both set and met. They serve numerous purposes, not least feedback to the organization, so it can continue moving forward, course-correct and improve its performance.

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[1] See p. 138 for Mr. Doyle's prepared statement.

In educational terms, speaking in light of the Nation as a whole, we need to be able to do two very broad things—one, to compare ourselves to ourselves, both as between States, and within States as between districts, ideally even between school buildings; we need to do what the business community thinks of as competitive benchmarking, to find out how the competition performs and why it performs as it does, to learn lessons that will be useful in improving your own performance.

Perhaps more to the point in the modern economy, what Peter Drucker now calls the "transnational economy", an economy in which no longer can any single nation or single corporation influence outcomes, but rather, outcomes are influenced by a global economy which marches to its own beat, we need to be able to compare ourselves to other countries.

Let me conclude with that. I think that it is most striking, and in my prepared testimony which I will leave with the Committee, I include a copy of a recent piece I did for the Op-Ed pages of the Los Angeles Times,[1] but to briefly summarize, our most ardent competitors are ordinarily thought to be the Japanese. They have extraordinary schools. As Merry White observes, their secret trade weapon is their schools, their capacity to produce the world's best-educated work force. Their knowledge about their schools in terms of factual material is really quite striking and impressive. They should be the envy of Americans. They know a lot about what they do and how they do it.

Let me also provide Merry White's other admonition, and that is we should look at Japan and hold them up as a mirror, not a blueprint. It is not our objective to copy them, but to learn from them as they have learned from us.

But perhaps more to the point in terms of issues that have greater resonance with American legal and historical traditions is the emerging work in Europe and the European Round Table of Industrialists, a newly-formed group, modelled in some important respects upon American business groups in the European context. There are two words that are critically important in that title. One is "European"; the other is "industrialists."

This group meets as CEOs of major industries, not as industry representatives, but as men and women who have reached the pillars of industrial and commercial accomplishment.

The other operative word is "European." For the first time I suppose since the Holy Roman Empire, Europeans are really thinking in a Pan European sense, no longer thinking as Frenchmen or

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[1] See p. 144.

Spaniards or Italians, but thinking as Europeans. The European Round Table of Industrialists are proposing not just improved measurement for what it is that they do in their schools, but improved standards of performance, higher sights, higher goals.

To give you an illustration, by 1992 when the European Community is fully integrated economically, assuming the timetable is kept, the European Round Table of Industrialists proposes that there be in place a Pan European baccalaureate degree similar in theory to the American high school diploma, in fact a degree with much higher standards.

By way of illustration, let me give you one standard that they propose to include in the Pan European baccalaureate degree—that each student, man or woman, old or young, who earns the new Pan European baccalaureate degree, to do so must demonstrate mastery of three European languages—his or her native tongue, English, and a third European language.

I would not be unduly cynical to note that if we could demonstrate 100 percent mastery of one language, it would be a signal accomplishment in our country.

Lee Iacocca rather wryly notes that 700,000 kids a year leave high school unable to read their own diplomas—not because they are written in Latin.

I think the issues are clear. We cannot make it in a world class economy without greatly increased school standards. To do so, we need to focus our attention as a nation on education goals, begin to think about more effective and direct ways to measure them, and measure them convincingly so that policymakers in particular will find these measures useful as they begin to think about improving the quality of American education.

I am prepared for your questions, and I will leave the written testimony with the Committee.

Senator BINGAMAN. Thank you very much, and we'll include that in the record.

Senator BINGAMAN. Mr. Corbett.

TESTIMONY OF H. DICKSON CORBETT, DIRECTOR, RESEARCH FOR BETTER SCHOOLS, PHILADELPHIA, PA [1]

Mr. CORBETT. I would like to thank you for the opportunity to be here. It is my firm belief that how we handle the issue of assessing school performance is going to go a long way in determining how successful the current climate of reform in education will be.

I think there is a great danger that we will begin assessing school performance in ways that are contradictory to actual reform in schools, and hopefully the end of this Committee is to avoid that.

In your letter to me, you asked that I talk about information that is required to assess school performance and to make meaningful decisions for improving schools. I want to focus on the "and to make meaningful decisions for improving schools."

There is a lot of information that we do and can collect about school performance that is not helpful at all about making meaningful decisions about how to improve schools. Let me just be brief. I'll make two points and reach a conclusion and then I'll be done.

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[1] See p. 145 for Mr. Corbett's prepared statement.

Information about student achievement outcomes or, as we've called them today, cognitive learning outcomes, may help assess school performance, but those outcomes are not helpful in determining how schools should change to improve that performance. Let me give you an example.

Suppose the superintendent in Albuquerque learns that compared to Santa Fe, reading scores are lower in Albuquerque. Well, that information in and of itself may tell the superintendent that she needs to do a better job in Albuquerque of getting students to read; but it gives very little guidance as to what kind of better job should be done in Albuquerque.

Should Albuquerque spend more time on reading? Should Albuquerque instruct reading in different ways? Should they get better reading teachers? Should they have a better classroom environment? Should they focus on critical thinking?

The information itself on reading provides no guidance whatsoever as to how to make those meaningful decisions about improving schools.

Let's think for a minute how schools operate to think about what kinds of information we might need to get. Very simplistically, the way schools operate to improve learning is this. Administrators behave in ways that should encourage teachers to behave in ways that should enable students to behave in ways that then lead to learning.

We have to focus on the behaviors of people in the educational system to improve performance, and we have to have information on the behavior of people in educational systems to improve performance.

For example, to compare as I have indicated the reading scores between Albuquerque and Santa Fe gives us very little guidance. If we want to get the American public interested in getting involved in what they can do to improve their schools, maybe what we need to have is information on whether or not students in Albuquerque are completing their assignments at the same rate that students in Santa Fe are completing their assignments. Maybe we need to have information on how much training teachers in Albuquerque have had in teaching reading across all content areas versus the teachers in Santa Fe. Maybe we need to know how much time administrators in Albuquerque spend on instruction-related matters as opposed to the administrative kinds of matters in Albuquerque versus Santa Fe.

Those are the kinds of information that we can then turn to to figure out what the system has to do differently to improve instruction.

Information on student weaknesses can indicate that there is a system weakness, but they do not tell you what that system weakness is, and they are not helpful in trying to identify ways to correct the system weaknesses.

The second point I'd like to make is one that you also made in your questions to the previous panel. Information has to be collected at the level at which action is expected. If you expect parents and teachers and administrators in Albuquerque to take action, then you have to have information on Albuquerque for them to take that action.

For example, let's put a third school district into the comparisons here and say that we've already bought the idea that what we need to get information on is the behavior in the system as opposed to the product of the system. So now, the superintendent in Las Cruces is looking at a comparison of the rate at which students complete assignments versus Albuquerque and Santa Fe and sees that the students in Santa Fe do complete their assignments more than in Albuquerque and says, "Well, maybe that's what we need to do."

But that may not be the case in Las Cruces. It may be in Las Cruces that students are completing their assignments but they still aren't reading better. So then that would lead them to say, well, the problem isn't getting students to complete assignments; the problem is in the assignments that we get students to complete. So it would take them on another tack. But just having that comparison between Albuquerque and Santa Fe is not going to do much in Las Cruces.

So we need to collect information at the level at which action is expected. There is no question, absolutely no question whatsoever, that providing comparisons of school districts can stimulate activity. The question is whether we provide the information that stimulates the right kind of activity. And normally, information on student outcomes stimulates the wrong kind of activity in school districts because it is too easy to manipulate dishonestly test scores and it is very easy to honestly try to do better on test scores and ignore other learning outcomes.

So where does that lead me? What is my conclusion? My conclusion on the Federal role in all this is that what we need from the Federal level are policies of support—support for data collection at the local level—because the policies for action will be made at the local level. Decisions about how to improve schools, matter how many summits we hold and no matter how many mandates we give, those decisions eventually will be made by administrators, teachers, parents and students at the local level, and that's where the information has to be collected.

Thank you.

Senator BINGAMAN. Thank you very much.

Let me see if I understand the distinction here that you are trying to make with the position that some of the earlier witnesses took, particularly Mr. Finn, on the value of assessing performance of students.

You are indicating that doing assessments of student performance in a way that allows comparisons does stimulate activity at the local level, particularly by those schools that are not performing as well. But your thought is that it is counterproductive because it stimulates the wrong kind of activity or it focuses attention on how to get kids to do better on tests instead of other things.

Mr. CORBETT. Right.

Senator BINGAMAN. How do you stimulate the activity that you think ought to be stimulated? What do you suggest? I understand your general statement that the Federal Government should be supportive of local schools setting their own levels and all, but I think very frankly, when we get into the political debate about should we do more in education, should we do less, should we increase funding, should we not, it always comes down to people saying, we keep pumping money in and we still don't have any improvement in the outcome; our kids aren't doing as well as the kids in South Korea. So we are faced with that all the time.

How do we structure something that gets us to the point where our kids are doing better relative to South Korea and other parts of the world so that when the international comparisons come back, we are not accused of spending all our time on process and no time on product?

Mr. CORBETT. Several things are in the question. One is the importance of international comparisons. I won't debate that with you. I would lose that one, I'm sure, if we got into an argument over that one.

Senator BINGAMAN. Do you disagree with Mr. Doyle's assessment that it is important for our kids to have as much facility with some of these skills as foreign students have?

Mr. CORBETT. I am not disagreeing with his statement that students should have that much facility. What I am disagreeing with is whether collecting information to enable those comparisons is the information to enable us to make meaningful decisions about school improvement. And the broken record that I will keep coming back to is making meaningful decisions.

There is a difference between information that enables us to assess and compare school performance and information that enables us to compare and assess school performance and leads to meaningful decisions. And that is what I am going to keep coming back to.

In terms of the governmental role in that, it comes down to, I would be one of those people who would say the Government should get involved in trying to encourage process over product outcomes; that given appropriate attention on the right kinds of behavior of teachers, administrators, students, and parents and school systems, we are going to see kids reading better.

A quick example, just to make it a concrete example. I was talking with a principal in Wisconsin this past summer, and he gave me a good example on this precise issue. They were having a problem with their reading scores, and they decided to focus on the completion of student assignments, whether students did their homework and whether students completed their assignments in class. They devised a program to ensure that every day, every student that attended school that day was going to complete every assignment. They focused on that for 2 or 3 years. At the end of the 2- or 3-year period, their reading scores started going up.

Now, they didn't focus on the reading scores. They focused on student behavior and on what teachers could do to get students to complete assignments. And I would say that that sort of change in that system is going to lead to a longer-lasting benefit for those students than if they simply said all right, we're reading poorly at third grade on reading comprehension, let's get every third grade teacher——

Senator BINGAMAN. Well, what was the impetus for them putting so much emphasis on doing these——

Mr. **Corbett**. I'm not disagreeing at all that that information is important to have.

Senator **Bingaman**. If they hadn't been told, look, your kids are not performing up to standard, then they probably would not have sat down and said, okay, we want to start getting these assignments done.

Mr. **Corbett**. But the additional point is that they then needed additional information to make meaningful decisions.

Senator **Bingaman**. I agree with that totally. I mean, obviously, just getting a report back from Washington or from the State department of education or whatever, saying your kids are at the bottom of the heap, doesn't tell them how to fix it. Without that, however, they may just go along fat and happy, thinking everything's great here in River City. Is that wrong?

Mr. **Corbett**. No, that's not wrong, but we never get beyond focusing on the students—we'll spend $15 million on NAEP, and that's going to be the end of the contribution in collecting educational information.

Senator **Bingaman**. As I understood Dr. Graham's comment, she was saying that the Federal Government needs to do a tremendous amount to help local schools know how to improve once they tell them that they need to improve, that is the research piece of it.

Mr. **Corbett**. Yes, but the purpose of research is to help us generalize across settings. The purpose of policy is to help us to specify action within settings. Those are two different kinds of information that are needed there. So we need the research, obviously, to help us understand the connection between teacher behavior and student behavior, but we also need additional information that helps us to understand what it is like to try to conduct those activities in a setting where there are few resources or in a setting where there are lots of resources. So we are not just making the research information and the assessment information distinction there.

Senator **Bingaman**. Okay. Mr. Doyle, from what I gather from your latest book, you do not agree with Mr. Corbett—or maybe you do—but at least in emphasis, I gather you do come out fairly strongly for having a better ability to assess or hold people accountable for higher academic standards and would do that through standardized nationwide tests. Am I wrong?

Mr. **Doyle**. No. You are fundamentally correct. I think Mr. Corbett's points are on target in terms of local jurisdictions. Data has to be useful and collected for a purpose. The national purpose, however, is to find out what we know and are able to do as a people, and that's not a very complicated or very long list. It includes things like standard written and spoken English, it includes knowledge of mathematics, knowledge of the great principles of democracy and of literature—I can do the enumeration quite quickly. We have the testing instruments readily available. The Foreign Service Institute, for example, has extraordinarily sophisticated and useful tests for language mastery which could be applied not just for English but routinely used for other languages.

The issue I think at the national level is to find out what we think people should know and to measure the extent to which we know it in some useful and capable way.

At the district level, the example I use at least in my speeches is that every high school in America should be able to graduate youngsters of normal intelligence and normal physical ability who are able to pass an armed forces qualifying examination, who are able to pass the examination to become a Federal Express delivery truck driver. These are simple, straightforward and easily- measured tasks. I am prepared to debate some of the more arcane points about "the whole child" as Dewey might have said it, but I think we are confronting a national emergency today, in which it is clear that our central cities are in despair, in very large measure because the youngsters there are not well enough educated to find and hold jobs.

So the more arcane points of knowledge and process I think are really not germane to the national agenda. Someday they will be, and I'll welcome that opportunity.

Senator BINGAMAN. All right. I appreciate very much the testimony. I think this has been useful.

We are having another hearing a week from Wednesday on the same set of issues, and we hope that as a result of these hearings we can help identify some ways in which we can act constructively to support what the Governors, the President, and a lot of people in education are trying to get done.

I do know that Congress sometimes is less than constructive in its actions, but I hope that in this case we can find some constructive measures to propose or support.

Thank you all very much, and we'll close the hearing with that.

[Whereupon, at 12 noon, the Subcommittee was adjourned.]

QUALITY OF U.S. EDUCATION INFORMATION: AVAILABILITY AND QUALITY OF NATIONAL EDUCATION DATABASES

WEDNESDAY, NOVEMBER 1, 1989

U.S. SENATE,
SUBCOMMITTEE ON GOVERNMENT
INFORMATION AND REGULATION,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The Subcommittee met, pursuant to notice, at 9:30 a.m., in room SD-342, Dirksen Senate Office Building, Hon. Jeff Bingaman, Chairman of the Subcommittee, presiding.

Present: Senators Bingaman and Kohl.

Staff present: Edwin S. Jayne, Staff Director; Carole Hardwick-Schneier, Chief Clerk; Carrie Billy, Professional Staff Member; Elizabeth Powell, Detailee; Ann Schnittker, Secretary; and Richard Ashooh, Minority Professional Staff Member.

OPENING STATEMENT OF SENATOR BINGAMAN

Senator BINGAMAN. We will call the hearing to order. We may have some other Senators coming in as we proceed through the morning, but we will begin.

I would like to go through a short statement here to describe some of what occurred at our hearing last week. Last week was the first of a series of two hearings on the issue of the quality of children's education and the Federal Government's role in the educational system.

Obviously, the subject is broad and in this Subcommittee's focus, as one could surmise from the title of our Subcommittee on Government Information and Regulation, is the role that the Federal Government has in gathering information about the quality of education around the country and the performance of students and other indicators, and making that information available to policy makers and the parents and the students.

It is our duty to determine to the extent that we are able whether the information systems that we have are well designed and well managed, whether they ask the right questions, whether they give policy makers at the Federal level, at the State level, at the local level, or individuals concerned about education, the data that we need to address the critical policy issues that we face in the area of education.

Throughout the country's history the Federal Government has had a strong, although not the primary, responsibility for education. More than 100 years ago, in 1867 when it was first conceived, the Federal Department of Education was charged with the duty, "of collecting such statistics and facts as shall show the condition and progress of education in several States and territories, and of diffusing such information respecting the organization and management of schools and school systems and methods of teaching that shall aid the people of the United States in the establishment and maintenance of efficient school systems and otherwise promote the cause of education throughout the country."

I think the recent summit in Charlottesville, of course, focused the country's attention on this commitment and the general commitment we have at all levels of Government to improve education in the coming years. Chester Finn, who is Chairman of the governing board for the Department of Education's National Assessment of Educational Progress testified last week to us, "It little avails us to set objectives if we have no means of knowing whether, when, or how well we are achieving them, whether we are progressing or regressing in relation to them . . . Goal setting is a hollow exercise without an information feedback system linked to it . . ."

And I gather what we are trying to do here is to determine the effectiveness and usefulness of the information feedback system.

I have a fairly long statement here, but let me just indicate that we have a distinguished group of witnesses again today. I think that we have an opportunity in these two hearings to focus in on the specific things that the Federal Government needs to do over the next few months in order to make the possibility of educational improvement that was discussed at the Charlottesville summit a reality. We have many areas in which the Federal Government's role is highly contested, but I do think that in the area of assessing the performance of students and trying to determine the information necessary to make good policy with regard to education, there the Federal Government's role is recognized fairly much by all.

Let me put the rest of this statement in the record and before we go to our first witness see if Senator Kohl has a statement he would like to make. We are very pleased to have him here as a member of the Subcommittee.

[The prepared statement of Senator Bingaman follows:]

PREPARED STATEMENT OF SENATOR BINGAMAN

This hearing will please come to order. Last week, this Subcommittee held the first in a series of hearings on two interrelated, though multi-faceted, issues: The quality of our children's education and the Federal Government's role in our Nation's educational system. Today, our series continues.

To be sure, education is a broad topic, both in scope and in importance. It would be fool-hardy of anyone, and of me especially, to think that this subcommittee, with its focus on government information and regulation, could even begin to address all of the challenges presented by our educational system. But this Subcommittee does have a role in one of the fundamental components of our Nation's educational system. As the Senate's overseer of the Federal Government's information gathering and dissemination infrastructure, it is this Subcommittee's duty to carefully and honestly assess the quality and use of the information we gather.

It is our duty to determine, to the extent that we are able, whether our information systems are well designed and well managed, whether they ask the right questions, whether they give us—as Federal, State, and local policymakers, as business men and women, and as individuals—the data we need to address critical public policy issues now and in the future. These are duties that I take very seriously, particularly when their impact is as direct and significant as federal education statistics and information gathering efforts are on our children and our children's future.

Throughout this Nation's history, the Federal Government has had a strong, albeit not primary, interest in the education of our children. More than 100 years ago, when it was first conceived in 1867, the Federal department of education was charged with the duty of:

"Collecting such statistics and facts as shall show the condition and progress of education in the several states and territories, and of diffusing such information respecting the organization and management of schools and school systems, and methods of teaching, as shall aid the people of the United States in the establishment and maintenance of efficient school systems, and otherwise promote the cause of education throughout the country."

It was an important task then, as the Nation began the process of rebuilding itself after the Civil War, and it is an even more important task now, as the Nation prepares itself for the competitive world of the 21st century. Indeed, as the President and the Nation's Governors begin to follow through on the commitment they made in Charlottesville, the availability of reliable, comprehensive information on the education of our children—on their educational performance—becomes paramount.

In Charlottesville, the President and the Governors committed themselves to beginning the process of establishing national goals for educational excellence. But how can they even begin to think about setting national goals if they do not first have access to data bases capable of assessing and supporting these goals? As Chester Finn, chairman of the governing board for the Department of Education's National Assessment for Education Progress, said during his testimony before this subcommittee last week:

"It little avails us to set objectives if we have no means of knowing whether, when, and how well we are achieving them, whether we are progressing or regressing in relation to them . . . Goal setting is a hollow exercise without an information feedback system linked to it . . ."

Unfortunately, I do not believe that the information feedback system to which Mr. Finn refers exists today. At last week's hearing, this Subcommittee was told that despite recent efforts to improve the Federal Government's chief education information source, the 20-year-old National Assessment of Educational Progress, we still know "woefully little about the things that matter most . . . how much and how well our children are learning. . ."

A large part of this deficiency is of our own making. Through statutory mandate, NAEP is a voluntary program. States do not have to participate in this biennial testing program if they do not want to. If they do choose to participate, they must pay for part of its costs—through actual funding or in-kind contributions. Either way, absolutely no Federal resources can be used to assist them in making up their share. And Federal law prohibits the States, not to mention the Department of Education, from using any NAEP data to compare schools or districts.

Until last year, comparisons at the State level also were prohibited. In fact, the first comparison among the states is not set to begin until next February. Even then, its scope will be limited to 38 States and the District of Columbia—12 States have chosen not to participate—and its focus is limited to an assessment of the math skills of 8th graders. Fortunately, the program's scope and focus will expand in future years. But that expansion may be too late.

If we had not wasted more than 100 years of opportunity, if the internationally competitive world of the 21st century was not approaching so quickly, and if it were not so economically and socially important to set—and achieve—national educational goals soon, then perhaps this Subcommittee's role in overseeing the U.S. educational information system would be lessened. Perhaps we could wait for the system to correct itself.

But the reality is that NAEP's statistics gathering efforts are indeed "woefully inadequate." The reality is that in the world-wide rush to excel in the 21st century, our children are falling further and further behind their international counterparts. The reality is that the economics of self-sufficiency demand the establishment now and attainment soon of national, State, and local educational goals.

Recognizing these realities, the Federal Government has begun to take action. I would be more accurate, and honest, if I said that the Federal Government has begun to urge others to take action. We are demanding that parents take a more active role in their children's education—that they hold schools accountable for the education children receive. Education Department Secretary Cavazos has urged parents to "call schools and ask how their children are doing . . . go to schools more often, consult with their teachers . . ." He has challenged states and individual school districts to set their own "education improvement targets."

Besides the obvious problem of denial, I see another problem caused by this all too typical Federal reaction. The problem, as I see it, is that we have created a mismatch between what we want parents to do and the information we give them to work with. How can we expect parents to demand educational excellence, how can we expect them—or us—to know whether the goals we are establishing are being achieved if we do not first have a clear, comprehensive, and uniform mechanism for measuring our children's educational progress?

The simple answer is that we cannot. We cannot demand educational excellence, because we cannot know whether it is attainable or whether our methods of attaining it are the correct ones, if we do not first establish data bases capable of supplying us with the information we need. To establish those data bases and lay a foundation from which goals can be established and assessed, I believe we should be asking some fundamental questions. I am interested in knowing whether today's witnesses agree that we should be trying to determine:

(1) What we know about the current educational performance of our students;

(2) What we need to know now, and what we will need to know in the future;

(3) What we really know about the performance of students in other countries; and

(4) What the Federal Government's role is in this process.

I look forward to a stimulating and informative morning of discussion on these issues, and I am hopeful that at the conclusion of this series of hearings, we will be able to take significant steps to improve our Nation's educational infrastructure. Thank you.

OPENING STATEMENT OF SENATOR KOHL

Senator KOHL. Thank you, Senator Bingaman. I have just a brief statement.

I would like to thank you for your leadership in bringing together these hearings, and I very much appreciate the time and contribution of the distinguished witnesses here today. I think they will be infinitely helpful in pulling together an effective education reform package.

First, I hope we can gain some insight on getting uniform standardized data. Earlier this year I believe there was some discussion about comparing apples and oranges on dropout statistics, because the states collect them in many different ways. I think we ought to be able to standardize some of these definitions so that apples, for example, in New Mexico are the same as apples in my own home State of Wisconsin.

Secondly, how do we get comprehensive national data for all school groups, preschool through maybe post-secondary? Is that feasible? I would guess we cannot get it all tomorrow, but what standards should we shoot for based on our projected needs?

And third, what are the problems with the present collection system and what can we do to improve that without tying the whole system up in red tape? Finally, what are the indicators of the quality and effectiveness of education? Is it possible to, quote, "test," if you will, on a national basis and still reflect accurately on the local curricula? And if so, what are some realistic goals that should be set for reform?

I look forward to hearing your testimony. I have been called to preside at 10:05, so I will have to be in and out, but I am very pleased to be here this morning. Thank you.

[The prepared statement of Senator Kohl follows:]

PREPARED STATEMENT OF SENATOR KOHL

Thank you Mr. Chairman. I want to commend you for having these hearings. Educating our children is probably the single most important investment that we can make.

We are not here to talk about gathering statistics to tell us how bad it is. We have been floating along through years of declining test scores. Our ability to compete in math and science internationally has been sinking. And increased numbers of kids have been dropping out altogether, drowned in a system that has failed to respond to their individual needs.

To some extent our schools have not kept up with the changing tides. There was a time in our society when a person without a high school diploma could get a decent job, maybe working in a plant or learning a trade. Not all that long ago, that person could make a comfortable living and support a family. By and large those days are gone. For today's high school dropouts, the job prospects will be limited to the service industry—fast food restaurants, hotels, etc. There is nothing wrong with a job in a fast food restaurant, but it usually doesn't pay the bills and it's darn tough to raise a family on such a low income. Today, to get a good job kids need to be educated and educated well.

So we must do better at keeping these kids in school.

At the same time, we have to keep our eyes on our elementary school students. I have been shocked when I have heard and read about the literacy rates; shocked when I have read that 25% of 7th and 8th graders don't have enough of a grounding in math to perform daily tasks like checkbook balancing. Schools have a lot of competition these days from non-traditional family structures, television, video games and a generally stimulating non-school environment. But somehow, we must get a handle on these kids early on, and give them the true "head start" that they need by turning them on to learning. Learning to read, learning math and science and learning to learn.

Our deficits in science education have already been documented. A recent National Science Foundation study compared science achievement of our high school students with that of some 14 other nations. The only scores we could use from this country were those of students who had taken at least two years of science and there aren't all that many students who have had two years of science. But counting only those—our "best"—our American students scored near the bottom of the 15 nation study.

That tells us that there is something awry even in our better science education programs. It tells us that maybe, just maybe, our "best" students need some attention too. And national data collection can hopefully give us some information on science curricula for all age groups. With the right kind of data, we can provide support to those schools and states who want to do better.

If we are to successfully reform our education system, we have to develop a plan that not only reflects where we are now and where we want to be in the future, but gives us some tangible tools to get there.

I hope that our distinguished witnesses will help us to answer some basic questions about what we need by way of information. What works and what doesn't? And if it works in Milwaukee, will it work in Peoria? What are realistic education goals and how do we go about measuring them?

In some ways, I feel as if we are trying to go upstream without a paddle, except in this case we're without a chalkboard. For all of the words about a crisis in American education—and I do believe we have a crisis in American education—there are answers to be found and charts to be drawn with the right data.

I hope that we can identify some of that information today. I thank My colleagues.

Senator BINGAMAN. Thank you for being here and the interest you are showing in this important set of issues.

Senator Heinz, who was unable to attend today's hearing, has a statement for the record and we will accept it for the record at this time.

[The statement follows:]

OPENING STATEMENT OF SENATOR HEINZ

Mr. Chairman, I am pleased to join you this morning at this the second of three hearings the subcommittee is conducting on the quality of our education information.

The series of hearings you are chairing are both timely and historic.

Timely, as the hearings are falling on the heels of President Bush's historic Education summit with our nation's governors addressing the critical challenges facing American education. Congress must now join this partnership and serve to enhance the Federal government's role in the critical endeavor of improving our education system.

Secondly these hearings are historic as they reflect the original mission of our Federal education agency determined by Congress in 1867. Since that time Federal efforts in the area of education have been the collection and presentation of information on the condition of education for determining emerging needs, the success of our education efforts, and overall promotion of our educational system.

The Charlottesville summit reaffirmed the Federal government's research and development role indicating the continuing need for research data that reveals the real performance of our educators, students, schools, and administrators. Disseminating materials on successful state and local education initiatives that work is also critical to the overall improvement of our education system.

In all honesty while I find the work of the summit valuable, revitalizing, and necessary, it remains difficult to muster a great deal of public excitement and support towards bolstering our research efforts, in both fiscal and human resource terms. The merits of timely and responsive educational research information must be stressed as a valuable cornerstone of any education revitalization effort.

I look to the comments of the distinguished panelists before us this morning for their expert insight as to how we can energize our Federal research and data collection efforts for the benefit of all elements of our learning enterprise.

Federal research and data collection can no longer be the stepchild of our education process. In reality it is a vital lead component in our educational system—our first line for success.

Senator BINGAMAN. We have several excellent witnesses today. To start out, Dr. Ernest Boyer, who is President of the Carnegie Foundation for the Advancement of Teaching at Princeton and a senior fellow at the Woodrow Wilson School at Princeton. He is also an education columnist for the London Times and is an author of several well known books on the subject of our schools. His career has put him in several key positions. He was the 23d U.S. Commissioner of Education and he has been named by three Presidents to national commissions, has taught extensively, and was Dean of Education, both in California and the New York university systems.

I very much appreciate his willingness to be here. Please come forward, and also I would say what is known to everybody here, I am sure, and that is Dr. Boyer played a very key part in bringing about the conference in Charlottesville and seeing to it that that made a constructive contribution.

We very much appreciate your being here and look forward to your suggestions and ideas about what the Congress ought to be trying to do in this area.

TESTIMONY OF ERNEST BOYER, PH.D., PRESIDENT, PRINCETON OFFICE, CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING, PRINCETON, NJ

Dr. BOYER. Thank you very much, Senator, for inviting me, and Senator Kohl. I am very pleased to participate in these hearings, which in my opinion focus on perhaps the most essential and most neglected issue in the big debate about school reform.

I know of no topic that is of greater consequence to the future of the Nation's schools than how we will assess carefully the performance of our students, because in the end what we test is what we teach. And further, the failure to establish understandable criteria and standards will lead to loss of confidence and a huge erosion in public support for the Nation's schools. So, quite frankly, you are examining, in my opinion, an absolutely crucial issue.

I should like to respond to the invitation to speak very briefly by commenting on three questions which I think are the three that you are asking during the hearings. First, what are the strengths and weaknesses of the current system?

As you have just suggested, we historically have had local control of public schools as the centerpiece of our Government's strategy in education, and when it came to assessment, we had teachers who were preparing report cards for the parents. They were making judgments and we were all fairly satisfied because the system seemed to work. Up and through World War II we really did believe that we were the best in the world militarily, economically and socially, so the system seemed somehow to be doing what we wanted.

I don't have to remind you that come Sputnik that confidence came crashing down. The Soviets put a satellite into orbit which threatened our confidence militarily, and then the Japanese put a Toyota into orbit, which threatened us economically, and suddenly we were not at all confident that we were internationally competitive either militarily or economically, and we were told then the Nation is at risk.

We have come then to a historic transition. It is my opinion this Nation for the first time in its history is less concerned about local control of schools than we are about national results. And we are now trying to do what has never been done before, that is, develop criteria by which the performance of education can be assessed while at the same time—picking up a theme of Senator Kohl—we retain vitality at the local level.

Now, if we can work out those two essential values, in my opinion we will have an outstanding education system. How do we proceed? The question is, what are the strengths and weaknesses of what we have now? We are no longer going to depend, I think, on the work of 83,000 isolated schools, or even 16,000 districts. We are looking for a way to judge the system overall.

Now, the truth is, of course, we have no responsible yardsticks that can help us do this, at least none that are widely understood. Let me just cite two that I think are worth considering; the National Assessment for Educational Progress, which Congress in its foresight and vision and wisdom established some 20 plus years ago, offers, in my judgment, an enormously important foundation on which to build. It has not served well as a national report card for the Nation's schools, for two reasons. One, it is a very infrequently presented pattern, so that you might have one subject assessed on one occasion and 3 or 4 years later you pick it up again, but there is no systematic and continuing process by which the National Assessment can be made available as an understood report card on the Nation's schools.

Second, of course, as you know, NAEP has been until this moment enormously constrained as to what comparisons it could make, and by law, statewide or district comparisons were not possible. So, let me simply say the weakness of the current system is that while the National Assessment offers great promise, it isn't available frequently enough and comparisons are not adequate.

In the absence of any reliable and trustworthy criteria—and that's not surprising because we grew up around local districts evaluating their own children—but in the absence of any national report card we, alas, have been using the SAT scores as a wall chart number, which I think is a scandalous misuse of that instrument. It was created 60 years ago precisely to be school proof and teacher proof to measure innate ability of students. It is called the Scholastic Aptitude Test.

So I must say I think it is unfortunate, with all due respect, that the Secretary of Education annually presents on the wall chart the SAT scores State-by-State when in fact, as we know, even within States, or among States, some students, perhaps only 10 percent will take the test, and in others it is 60 percent. So it is mischievously inadequate as a report card on the Nation's schools, because I think no one on the planet Earth knows whether a 400 verbal means formal learning, innate ability, informal learning, or cram course preparation. And to use that number as a critique of school performance I think only confuses more than it clarifies, and in the process we end up measuring that which matters least.

Which leads me then to the second question that you asked, namely what additional information do we need? That is, what might be the criteria for an effective national report card on educational performance?

I do think we are now at the moment where that question should be seriously addressed. You have already cited, Mr. Chairman, the statement from Charlottesville where the Governors and the President for the first time in our history said we are going to evaluate the Nation's schools, statewide, locally and nationally, and I would imagine internationally as well.

I don't know the details of that, but let me give you just several suggestions as to where I think that task might lead us. First, under the heading of what I will call student achievement, I certainly think we should have basic skills assessment of all children at perhaps grade 4, but not before that, when developmental levels are so uneven among children. But it is not unreasonable to ask whether all children, as they complete grade 4, have, in fact, the capacity verbally, linguistically and computationally to proceed. That is, has a foundation been well established? So I would like to see basic skills assessment at the midpoint in primary education.

Second, I think it is not unreasonable to ask that we have a general knowledge test in high school for all students, and perhaps at the junior high level. And here I cite with great hope the work of NAEP. I really do believe, as I said in my introduction, that here we have a structure on which to build. All students need to have something called cultural literacy, and that means shared knowledge so we can even argue about our differences. And I think assessing students in all the essential subjects through NAEP, and I would say every 2 years and in all States, should be a requirement as we look to the need for yardsticks that will give the public some evidence that our schools are working and that our $180 billion investment is paying off.

Third, and it has been a prejudice of mine for a long time, I would like to see a writing assignment for all students at the senior year as a prerequisite for graduation. After all, simply recalling isolated facts does not make an educated person. They need to be able to integrate ideas and relate them to a consequential topic. So I would like to see a national assessment program that includes a writing sample and all students would be expected to complete that as an expectation for graduation. I could add other pieces, but that represents, in my judgment, at least a beginning framework for what I would call student assessment.

There is another comment I would like to put before you for just a moment or two, and that's the performance not of the students but of the schools. I think these are two interrelated but quite separable problems that we face. The performance of the schools should include perhaps the half dozen items that I will now recite. I think all school districts should be asked in the coming years to demonstrate the kind of preschool education that they provide for children. All schools should be asked about the attendance and completion rates. I think all schools should be asked about school climate, which would include such matters as vandalism, drugs and the discipline and dismissal rates of students.

All schools should be held accountable for the way teachers are professionally rewarded, which would include such matters as salary, working conditions, in-service education and even evaluating periodically the morale of teachers. I should say, Mr. Chairman, that at the Carnegie Foundation 2 years ago we surveyed 22,000 teachers from coast to coast. We disaggregated those data State-by-State, and we have available how teachers feel about their work in every State, and I think that importance of teachers and the empowerment they are getting should be a regularly repeated criterion by which states are held accountable, and even schools.

I think all schools should be held accountable for parent participation in the schools. What is the program and what are their goals? And finally, I think all States should be held accountable for equity in school financing. I think here again we cannot assume equality of opportunity without looking at equity. And as you well know, two States—Texas and Kentucky—just recently have been ruled by their supreme courts as having unconstitutional school systems.

In that regard, in Texas one district has a funding program in which the children get about $1,600 each year to support their schools, and there is another district in Texas where the children are funded at the rate of about $14,500. Does anyone really believe that that represents a constitutional and even ethical way to fund the public schools?

What I am suggesting, then, in your search for standards, is that student achievement is the core, but a larger umbrella, which I would call school performance, has to be the framework within which student achievement would be fitted.

That leads me to the third question that you asked: Who should take the lead? And as I mentioned at the outset, we are at a new place in our education history that we have never had to face before. There are no obvious national structures that I know of that should be turned to immediately to say here are the standards that we will now use. The governors, as you know, have organized a task force to look at school goals, and I understand they are going to report in February. And I think that is commendable, and it is historic.

I also have to speak very favorably about the work of NAEP. Emerson Elliott is the leader and we have great opportunity to build on that core, but it is my conclusion, and I don't say this disrespectfully, that probably this larger definition of school standards should not be left exclusively to the governors' panel, or even to the Federal department, although they represent perhaps the most authoritative partnerships.

What I would like to see is the formation of a non-governmental panel of distinguished citizens. It could be for a 2 to 3 year period or it could be for the decade of the 1990's. It would be comprised of Governors, to be sure; of Federal officials from the Department, to be sure; but also distinguished scholars, master teachers, and citizens at large. I think the agenda you are confronting here is of such consequence—it represents an issue that affects all citizens—that it should not be left either to politicians, to the Federal Government, or to a single group. Rather I think the moment is here when we, as we have often done in the past, should form a distinguished panel of citizens, non-governmental, but, perhaps, governmentally endorsed.

Their task, working I think as an R&D mission in a kind of peacetime Manhattan Project, might be to work together for several years—let's call it the National Council on Education Standards—to develop a model assessment program for the Nation's education system that would include, on the one hand, criteria for student assessment categories, and on the other, a larger frame as to what the school assessment might include. And that group could report periodically to the President and the Nation, and I would surely see NAEP to be a core component of that, but I see the agenda going beyond the National Assessment.

May I conclude then, Mr. Chairman, with one final word. I believe absolutely that this Nation must have evidence that its $189 billion investment in schools is paying off, and we need something that makes sense. We cannot just say, "trust me." At the same time, I underscore the point that paper and pencil tests just will not tell us the whole story, and I would hope that a national panel would also advise us to be cautious, to go as fast as we can to report, but understand there is a lot that we cannot measure by the instruments that we currently have.

Howard Gardner at Harvard reminds us that there is not just verbal intelligence; there is intuitive intelligence and social intelligence and spatial intelligence and esthetic intelligence, and frankly, psychometrics has not developed to the point where we can measure the full potential that all of our children have. And here again, we need the good intuitive judgments of outstanding teachers.

So while I am here to affirm the importance of developing criteria to evaluate children in the schools, I would also try to raise a strong warning that there are limits to formalized assessment and we should not overload the system and screen out what I think are the potentials our children have.

Nonetheless, what we test, as I said, is what we teach, and I only hope that as we proceed, we will develop a system that will give us confidence in the schools but also will affirm the potentiality of our children.

I will be happy to respond to any questions that you have.

Senator BINGAMAN. Thank you very much. I have a couple of questions, at least. Let me just first ask Senator Kohl, you said you have to be over to preside at 10:05.

Senator KOHL. Well, I just decided I am not going to do that. I think this is more important, and I will go at 10:30. Thank you, Senator.

Senator BINGAMAN. Okay. We are very pleased to have you stay.

Let me ask for a little clarification. With regard to student achievement, your suggestion was that we assess students' performance beginning at grade 4 and then we continue every 2 years, as I understand it, to have a national assessment capability for our students.

Now, was your suggestion that we assess them in grade 4 and then again as juniors in high school, or would it be every 2 years, so 4, 6, 8, 10, 12?

Dr. BOYER. No. What I meant was that we should repeat these assessments every 2 years, not every second year of the child's progress, but that the Nation receive a report card every 2 years, my point being that at least we need that much frequency to develop longitudinal trend lines on how the schools are doing.

Because national assessment happens so infrequently and only in one or two areas, the Nation isn't even aware that it is going on, and so we are choosing, unfortunately, inappropriate yardsticks that come out annually, like the SAT scores. So what I meant to say, Senator, as a kind of a minimum goal, if we were to assess the performance of students at the end of fourth grade to give us a baseline on the fundamentals—the tools of learning—then those numbers, or that report, should be made available to the Nation at least on an every 2-year interval.

Senator BINGAMAN. Now, the theory of this, of course, is that we get good information to people who need to make policy. In your view, does that mean that the ideal would be to do a sufficiently broad based test so that you could actually get information back to these 83,000 schools? I gather California and maybe one or two other States actually are trying to measure the performance of students school by school.

Is that what you are suggesting that the Federal Government should aim to accomplish?

Dr. BOYER. Here it is a matter of how comprehensive can you be in terms of money and logistics. As an opener, I think that the national goal might be to have this comparable data available State-by-State. I would think then that each State would wish to fund its own assessment, using the same criteria, that would get it into the district and school level.

Here is where Emerson Elliott and others who know more about the financing and logistics might have comments, but I think as a first line goal, Senator, we should at least feel that all States are participating and that we would have State-by-State comparisons around language and computational skills for all children at grade 4. That would be a huge step forward. But then with that same instrument, it is not inconceivable that States would wish to fund their own components so they could look at district and even school by school performance, which I guess is permissible now. That is, districts I think can take NAEP and use that same instrument to get a fix on where they stand in national or State norms. But at least I would start with State-by-State comparisons.

Senator **Bingaman**. We are getting way ahead of ourselves here, but if we were able to get State-by-State comparisons right now we have a voluntary program for this next year and 38 States have signed up to do that with regard to eighth grade math.

Dr. **Boyer**. Yes.

Senator **Bingaman**. If we got to the point of where we had the State-by-State comparisons, in your view would it be a proper responsibility or action by the Federal Government to provide incentives or some mechanism that would bring States into doing more and actually get it down to school districts and schools. Is that a proper role for the Federal Government instead of just saying it is up to the States to do more if they want to?

Dr. **Boyer**. I think, as you said, the goal here is to have information available that allows educators to act in a constructive way. It is not to be punitive or just to get another distressing headline. We are trying to look for data that will allow us to make the system better, and I have to be frank with you, I haven't thought about either the incentives or penalties that would encourage States to move this to the operational level. I think that either of those could be provided, either the carrot or the stick. But I guess the first goal should be that there would be an agreement that these are at least the beginning benchmarks, and we are going to look at ourselves nationally and State-by-State, but then we would have to think of phrase 2. And incidentally, because of the year 2000 it is nice to think of the next millennium.

We might lay out an assessment program between now and the year 2000 with steps 1, steps 2 and steps 3, so that by the year 2000 you not only had the national and State norms but a system by which district and local school performance could fit into the total matrix. But if we don't finally get down to that level so parents and the educators at the local school know where they fit into the larger pattern, I think we fail to link it to the point that matters most.

Senator **Bingaman**. Let me ask on the performance of schools, that other set of indicators that you referred to and you listed six. How often should we measure those?

Dr. **Boyer**. Here again, I think that every 2 years is not unreasonable, both for student achievement as well as school performance. My own view is that if we don't have school assessment and longitudinal trendlines in the public mind with sufficient frequency, we are not keeping the public confidence, nor do I think we are giving local educators the kind of feedback they need to look for correctives.

With all the money we are spending and all of the urgency about this, as Checker Finn said a week ago, if we don't get serious about establishing agreement on reasonable criteria, measured with enough frequency to make judgments, then I think we are just playing games about the business of schools. So that is why I say it seems to me at least every other year is not unreasonable, and if it gets less frequent than that then I think the public really loses touch with the central question: Is the investment paying off on behalf of the Nation and the children?

Senator **Bingaman**. I have a question regarding your National Council for Educational Standards, which I think is an excellent suggestion. It is one we discussed a week or 2 ago when we visited.

Which of these two areas do you see this national council being most useful in, or do you see it in both? Is it the performance of students, or is it the performance of schools, or is it setting standards for both?

Dr. **Boyer**. I think the first step, Senator, is to get an agreement as to what constitutes a reasonable framework of assessment for school performance. And buried within that effort—I guess I would say the heart of it, of course—is the student achievement part. When you are assessing the school and its full frame as an institution, at the heart of that is how the students are doing. What I would like to see is a national consensus on what we think is a reasonable framework for school performance, and student achievement would be within that.

Now, the criteria alone would be a breakthrough. And I think it's not unreasonable that we could have some agreement on a framework that makes sense. We might disagree on the edges, but I cannot believe that we couldn't agree on a framework if the participation was broad.

So I would say both, to answer your question. But then Phase 1 would be just to agree on the framework. Phase 2 would be to decide what are the best "instruments" to gather those data? Now, in some instances it is quite simple; in others it would be more complex. You have even heard that deciding what a dropout is isn't simple. But when you get into the subject areas or what would be the reasonable basic skills tests, we would have to look at the State of the art instruments available, and that might call for some R&D work over several years.

In fact, that national commission might do some contracting work with scholars to indicate what kinds of instruments are available, or we might find in certain States they are doing something quite well. California has been doing some interesting work in assessment. We have had the Iowa test going on for a long time. I've already praised National Assessment's work several times. So I don't think we are starting from zero, but still my point is that the effort should be first of all, criteria, and then citing the kinds of instruments that might allow us to deliver on this operationally. This national body should develop the framework for the schools, but there would be within that a careful critique and comment on what would be a model student assessment.

Senator **Bingaman**. The one other question I had deals with the ongoing activity now that you have had such a major part in, which Governor Hunt is heading up. He was in my office yesterday talking about the effort to go forward and actually have the commission that is already in existence set standards for teaching.

How do you see that in comparison to what you are talking about here, setting standards for the schools?

Dr. **Boyer**. I think it is complementary but separable. I mean, it is interesting, isn't it? We have a body that is now working on the matter of standards for teachers that might have reciprocity across the States, and that is not unimportant. As you know, I think that matters a lot. What do we mean by good teachers, and can we have some comparable arrangement nationwide? Now we're asking what do we mean by a good school and how can we evaluate whether students are making progress? I would say that is a parallel inquiry, but it is even more important.

If we end up having some common agreements around national standards for teachers and have total confusion around the performance of schools and students, in a sense it is almost cart before horse. But there is an interesting effort going on, non-governmental with deeply committed people who represent a cross section of the citizenry with, in this case, private funding looking for public support, to be sure. But it is a serious nationwide effort.

And it is sort of the way America does things. I mean, this is what de Tocqueville talked about. We define a problem. It is not necessarily done through a Government agency, or just citizen effort, but perhaps a public and private collaboration. So I would see them parallel, but not in any way competitive.

Senator **BINGAMAN**. Senator Kohl.

Senator **KOHL**. Thank you, Senator Bingaman.

I just was elected a few months ago to public office for the first time. When I campaigned I talked about education as the single most important thing that we have got to face, correction of our educational deficiencies. And I am just learning, but I think you would agree—I think we would all agree—that having fallen so far behind in the last several decades relative to where we were then and where we are now vis-a-vis our competitors around the world, it would be disastrous in this next decade not to be successful in what we do.

I think we need to be careful, Dr. Boyer, and I am sure you agree, that these moves that we make in these next 10 years in trying to resurrect and restructure our educational system are more than experiments, that they in fact work. God forbid we should find ourselves at the year 2000 having found out that the things we did in the 1990s didn't work. I think that would be a real tragedy for our country, almost inexcusable. And I have some concern, probably overweighted by the fact that I come from the private sector where it is a lot easier to define a problem and then try and get on with a solution.

I have some concern about the debates I am hearing and it is an amateur's concern, concededly, because I am not a professional here, but some concern that the debate will rage on and things will occur and not occur and 10 years from now while we might have made some improvements, we will have to look back and say we are still far, far behind where we need to be.

And so just touch on some of the things Jeff has asked because I would like to get a little clearer idea of how this all might work. The Federal Government, national standards, to some extent nationalization of educational standards and assessments and testing and insurance that we are going to get what we need to get by the year 2000. But most of the funding comes from the local level. I mean, the overwhelming amount of funding comes from the State and local levels. And as we know, whether we like it or not, from where the money comes comes also control and the ability to make the decisive decisions.

How do you imagine this kind of a partnership is going to be effective in moving us forward away from argumentation, disputation, disagreement, politics, all these things if in effect we are saying we need to have some sort of national standardization of where we are going, assessing students, assessing schools, assessing teachers, all these things that need to be done, and yet the money is not—or is it, or should it—come from the source of where these standards are coming from? How is that going to work?

Dr. BOYER. Well, first, I might underscore the point that when I talk about national standards, I don't mean Federal, if I can draw that distinction. And witness the fact that 50 Governors said we need national standards and they did not say Federal. I think that important line needs to be drawn.

The second point, it is true that the source of funding tends to control education. But for the first time in our history, Senator, less than half the funding for public schools is coming from local districts. It is I think something like 48 percent coming from the local districts, about 6 to 7 percent from the Federal Government, and then the rest from the State.

So what I am saying is if you take the State and Federal, although Federal is a very small chunk, we have now shifted, interestingly enough, away from primarily local funding of schools to State/Federal, and I think that has been of powerful historic importance, too.

But the third point is the one that I share with you. I think the last thing we should do is just mark time or do dumb things. We have an opportunity around the national assessment issue to make a quantum leap that will in fact move this reform movement forward. What has happened since 1983 to try to get schools going again has been important, but I think it is running out of steam. An experiment here, a project there, with no sense of what I guess I would call a systemic strategy—it is a word I don't love, but I will use it. There is no overall plan or design.

People are losing patience, and I think if we don't take a quantum leap that makes sense to large numbers of people, then public confidence is going to fall away fast.

Senator KOHL. Well, do you get the feeling—I don't get the feeling that aside from an occasional speech, an occasional symbolic gesture, or considerable speeches, considerable symbolic gestures, that this Nation has been energized to feel a sense of urgency?

Dr. BOYER. No; I guess I would have to say that we still aren't scared enough.

Senator KOHL. So what is going to happen? As I said, and I think we all agree, in the year 2000 if we don't get our house in order——

Dr. BOYER. Well, the future of the Nation is imperiled. It is as simple as that.

Senator KOHL. Do you feel that we are moving along in a direction of correcting our problems with the sense of urgency we need to?

Dr. BOYER. No, I don't. I will put it as simply as I can. If garbage were stacking up in most cities, the Governor and the mayors would get together and lock everybody in the room and say, we are not leaving until we get out a plan to get rid of the junk. Yet in these same cities year after year after year, half the kids walk out, don't graduate, drift on the streets, and it is "tennis anyone?"

I don't sense any urgency to match the problem as I see it. Now, the good news is that it has stayed on the agenda. I have met with corporate leaders in the last few days. I have to say the best news is that corporate America is now looking this in the eye and saying, if we don't have better schools this Nation is going down economically and civically. And they are talking with more candor and common sense than many educators, or even with respect, political leaders.

They have a fix on the connectedness between economic and educational vitality. Now, that is not the only reason we have schools. But I am finding more freshness, and even more hope among top CEOs than any other sector at the moment. But I don't think, to answer your question, we have really defined this as being at the heart of our national survival, the investment in the human resources of this Nation.

And I think about two-thirds of the schools have been holding their own and getting modestly better in the last 6 to 8 years, but about a third are getting worse. So if you want a confessional, we are still playing games. We are on the edges.

Senator **Kohl**. Let me ask you a question. Do you think or do you have a comment or would you like to make a comment on the terrible damage that public figures do when they stand up, looking for votes, and talk about how important and urgent education is and, you know, just elect me and I will do something about it, and then people think, well, maybe they mean it and then they get in office and it is forgotten? What kind of damage has that done?

Dr. **Boyer**. I think that is terrible. They should be impeached, perhaps.

But, this Nation still believes deeply in education. It is the one civil religion. We can all agree we want better schools because we want our children to have a good shot and we know that that is the only show in town. Whenever this Nation hits a crisis, where do we go? The schools become Mr. Fix-it, whether it is AIDS or pregnancy or health or whatever. So we expect enormously from this system, but frankly, when it comes down to providing the policy leadership, you cannot find the energy that it requires.

For the politician, education is a good thing to get elected on, isn't it? I mean, people know that. But then what follows after election day? What kind of energy and clearheadedness, and I don't hear a lot of that.

Senator **Kohl**. Would you think that if we are going to exert some strength on the national level and perhaps take over some of the direction, some of the controls, setting the standards and following them through, it becomes essential that this not be subject to political whims from one election to the next, from one Senate or one President or whatever to the next? Because, as we know, different Senates and different Presidents and different Houses of Representatives put different evaluations on education and you would have a yoyo, you know, hot today cold tomorrow.

Dr. Boyer. Well, I would hope, Senator, that education could remain bipartisan. That is one of the really exciting climates that I found when I was here for several years. It was not a partisan issue. People knew it was America's issue, and we need to keep it bipartisan and avoid being narrowly ideological.

Senator Kohl. But from one administration to the next, as we know, different Presidents—I think one President wanted to do with away with the Department of Education, didn't he? And I'm not saying it was good or bad. Maybe he had a better idea.

Dr. Boyer. Bipartisanship doesn't mean there won't be honest differences around policy. I accept that, and it might fall along party lines. But I think the larger pattern should be kept in front of us, and I would hope that we wouldn't turn education into a political or partisan or ideological whipping boy. If we start down that road, then I think the game is over.

Senator Kohl. I agree with you, and I think we agree that by the year 2000 if we don't do the right things, if we do the wrong things—and it seems to me that one of the things we need to do is to strip away education from political partisanship, and it is more than words, there have to be some steps—which I don't know what they might be—to ensure that that will happen. Wouldn't you agree?

Dr. Boyer. Absolutely, and let me just put that in the context of the Charlottesville summit to which Senator Bingaman referred. The response to that was so overwhelmingly and uniformly constructed. It was the first time ever that all governors and the President got together to discuss education—an enormously impressive symbolic act. We live by symbols, and dreams can be fulfilled only when they have been defined. And here we saw at Charlottesville, the home of the first education president, this wonderful celebration of the importance of education, and from it emerged a statement from the governors and a speech by the President that I thought were frankly as statesman-like as anything I have read about the agenda for the schools.

The only point I would make is now we have to start acting. The party is over and now what will be our decade-long march to implement our goals in a responsible way? Where will leadership come from, how can standards be established and how can we move the schools with inspiration, not in a punitive way but in an inspired way, too? I think that is where we stand, and that is why I said at the beginning, the issues you are inquiring into here are at the heart of our efforts.

What are the standards? How can we hold the schools and students accountable? How can we give them encouragement where they are weak? And how can we define the limits of assessment so we don't do mischief to children?

Finally, what do we teach, how do we get great teachers, and how do we evaluate results? If we could start focusing an those three ancient but essential and enduring questions and get the right answers to those, led by Federal guidance, structured by the states, and finally, delivered at the local level, we will have a good system.

If we could get standards straight, then we give schools some yardsticks by which they would be measured, and then we should give them a lot of freedom to get there. And right now since we don't have national standards, we are overwhelming schools with paperwork and holding them accountable for process and not for outcomes. If we got the outcomes straight, then we could say, we are going to give you a lot of freedom around financing, around personnel, around calendar, but we are going to hold you to these yardsticks. I think, frankly, schools would welcome that. Right now every week they get a new challenge. Somebody says they should be doing this one week, next week it is this and next week it is that, and they are always being torn in different directions. If we got the standards worked out carefully, then we could say, now we will give you the freedom.

May I say as a footnote here, I am greatly intrigued by what is happening in Great Britain and Australia. Great Britain, as you may know, just recently had an historic educational act in parliament where they are trying to do precisely what we are talking about, and I have had several delegations visit us. Not that I want to imitate any other nation, but there are activities going on that are trying to establish national criteria, but give a lot more freedom to the local school. And I think those go together.

But in any event, to come back to your major theme, I don't know of any issue that is more urgent. I think we still have not demonstrated the energy that we need, and unless we get on to it, I think this system will lose its confidence and the Nation's future is at risk.

Senator BINGAMAN. Thank you very much. Dr. Boyer you have been very generous with your time and we appreciate your well-reasoned comments, and we will continue to call on you if we can to help us move forward in these areas. We appreciate it very much.

Dr. BOYER. Thank you for your leadership.

Senator BINGAMAN. Our second panel is Mr. Emerson J. Elliott, who is the acting Commissioner for Education Statistics at the Department of Education. Mr. Elliott has been the Commissioner since 1984, has held the position of director of various divisions in the Department of Education, Chief of the Education Branch at the Bureau of the Budget, and holds presidential rank awards for distinguished executive service.

He is accompanied by Dr. Jeanne Griffith, the Director for the Cross-cutting Statistics Division in the Department of Education. She was a part of our panel last week and we appreciate her being back. And Mr. Elliott, we very much appreciate your willingness to come and talk to us today.

TESTIMONY OF EMERSON J. ELLIOTT, ACTING COMMISSIONER, NATIONAL CENTER FOR EDUCATION STATISTICS, DEPARTMENT OF EDUCATION, WASHINGTON, DC, ACCOMPANIED BY JEANNE GRIFFITH, PH.D.

Mr. ELLIOTT. Thank you, Senator.

Mr. Chairman, Senator Kohl, thank you for the invitation to talk with this Subcommittee about the availability and quality of education data from the National Center for Education Statistics, and about how they relate to potential national goals. I would appreciate it if you could include the full text of my prepared remarks in the record [1] and I will summarize the principal points in this oral statement.

Senator BINGAMAN. We will be glad to include those in the record.

Mr. ELLIOTT. Thank you. First, we do not yet have national goals, but statements about the areas in which the United States President and the Governors have committed themselves to formulate goals. Nor do we have agreement on the appropriate measures of progress for such goals. For that reason, I can only talk in a general way about the quality of data that might be needed to monitor progress toward goals.

Second, the overall statistical programs of the National Center for Education Statistics must be evaluated against many diverse requirements of which monitoring goals would be one. But data are also needed for many other purposes, such as the allocation of Federal funds and describing post-secondary education, which was largely outside the focus of the summit. For example, Mr. Boyer in his remarks mentioned equitable financing as a potential goal, and that did not happen to be included among the areas mentioned in Charlottesville.

Third, bear in mind that the National Center for Education Statistics is not the only part of the Federal Government nor even of the Department of Education that collects education data. The United States Bureau of the Census, the National Science Foundation, outside of the Department, and within the Department, the Office for Civil Rights, the Office of Special Education, and the Office of Planning, Budget and Evaluation all provide data in one form or another.

Fourth, developing and completing statistical data collections takes a considerable amount of time since it requires designs, pretests, reviews, analysis, and reporting. And efforts to short-circuit these necessary steps almost always compromise the technical quality, usefulness and reliability of the data.

Let me turn now to the first question that you posed in your letter of invitation, what are the strengths and weaknesses of existing national education information collection systems at the Center. NCES is currently involved in a number of activities to improve its statistical system in terms of coverage, comparability, timeliness and quality.

At present, some strengths of our system are that we have broad coverage of a wide variety of topics related to teachers, students, institutions, finances and student outcomes. We have recently expanded data collections in a variety of topics, such as elementary and secondary schools, teachers, administrators, both public and private. And we have student information on a longitudinal basis beginning with pupils who were eighth graders in 1988 who will be followed through their school career and on into life beyond their secondary experience. And we have new data collections on post-secondary faculty.

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[1] See p. 152.

We have also expanded and strengthened basic surveys on data about public elementary and secondary schools and about colleges and universities. We are pilot testing new data collections on preschool education and dropouts and we have established, following the mandate of the recent Hawkins-Stafford legislation, a cooperative State and Federal effort to improve the comparability of elementary and secondary education data. That program is being used especially for developing comparable data on dropouts and on school finance.

Still there are deficiencies in these collections that could be problematic for monitoring goals. Most of the survey systems only provide national level data or are just beginning to produce state level statistics. Longitudinal studies, such as the new study of eighth graders in 1988, are of limited usefulness for tracking changes over time since these studies are conducted infrequently. There is spotty coverage of some topics, particularly for emerging issues such as post-secondary assessment and curriculum. Data quality is of paramount importance to NCES because our credibility rests on the validity and reliability of our data. We still have much room for improvement in this area.

Your second question was, are there needs for additional information to enable us to assess progress and make effective decisions? Again, my prepared statement will provide more details about what we have done in each of the areas described in Charlottesville. Generally, we have or will have at least some information to bring to bear on the different goal areas that are related to schooling in institutions and student outcomes. These include, for example, teacher supply, international performance comparisons, adult literacy, dropouts, student achievement and safe, drug-free schools.

We have less information on education outside of the traditional educational institutions in areas such as preschool readiness, training for a competitive work force, and also on technology in schools.

Within schools over the last several years, as I mentioned a moment ago, we have initiated a number of new surveys that should serve the Nation well when specific goals are adopted. We have detailed student based information on longitudinal surveys to provide data on student characteristics, antecedents and consequences of dropping out; on student performance and achievement associated with school and individual characteristics and behavior; on student and teacher perceptions of the school environment for knowing more about safe drug-free schools; and on teachers of the students in the sample.

Our teacher surveys will provide information, including representative State information for public schools, on teacher demand and supply, teacher and administrator characteristics, education and training, career paths and salaries, teacher and administrator perceptions of school environment. And our national and international assessments provide detailed information on student achievement with trend data on reading, math and science, on international achievement comparisons, and adult literacy where we have a study already for young adults that was conducted in 1985 and 1986, and we will have a study underway with reports in 1992 and 1993 on the general adult population.

Let me insert a note here, Mr. Chairman. Mr. Boyer and you were talking about the availability of the national assessment tests that are given within states at the district level. I wanted to note for the record that, indeed, the legislation passed by Congress in April of 1988, the Hawkins-Stafford provisions, barred the use of the state level national assessment at the district school and student level.

Thus far I have talked about goal areas in which we have or are planning to have a considerable amount of data and "planning" may mean data 1991 or 1992 or 1993. There are other summit goal areas where the National Center has little or no data, either currently or planned. We do not now have in place any data collection to inform about preschool readiness. We are currently pilot testing a survey to monitor trends in preschool care and education, and we are considering developing an early age longitudinal study.

NCES does not collect any systematic information about out of school learning and adult education. There is some information available irregularly from the Census Bureau surveys, and limited data from our longitudinal studies for specific cohorts.

We collect very little data about various types of technology in the schools, availability, uses or access. There was a national assessment of computer competency in 1985 and 1986, and a few items about computers on a 1989 Census Bureau survey.

Your third question was, who should have responsibility for identifying and developing national education information and statistics and what, in particular, needs to be done at the Federal level? The answer to this question really depends on what information is desired and for whom. Given that the primary responsibility for education rests at the State and local levels, the heaviest need for data, both for monitoring goals and for other purposes, appropriately belongs there. In addition, establishing and implementing policies that will facilitate achievement of such goals occurs at the district, school building, and classroom levels. The Federal role is a limited one of providing data and research, but it cannot and should not be the only provider.

An additional important Federal role is developing measures of the overall performance of the system, and in this regard the Hawkins-Stafford legislation calls for a panel on education indicators—which will be chaired, Mr. Chairman, by Alan Morgan from your State—that will provide advice to me and to the United States Congress on what are the important measures of the progress of American education that should be reported on periodically.

Data for monitoring progress toward State specific, district, school and student goals would be best collected by the level actually setting such goals as part of their own data collection activities.

NCES already collects a lot of information relevant to the goal areas identified in Charlottesville, as well as to other needs of policy makers at all levels. Whether we have the data necessary to assess progress towards specific goals in those areas will not be known until specific goals and measures of progress are identified. Much of the data we have are not available for geographic detail below the national or regional levels.

There are other goal areas in which we have relatively little information. One outgrowth of the summit may be that policy makers will want to expand statistical data collections at the State and Federal levels. However, changes will not occur overnight. It takes considerable time for the developmental work to mount new data collections or to add new components to old ones.

A goal I set when I took over leadership of NCES was not only to improve the efficiency and technical quality of the agency's efforts, but also to make it more responsive to changes in its environment and the needs of its constituencies. We can meet the new challenges posed by the ongoing revolution in American education, but we cannot do it alone, or do it overnight. It will be a building process that will require time and the cooperation of people who use data as well as people who provide it.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much. Let me ask a few questions of you on some of the issues that came up earlier in the hearing today, and also in the hearing last week.

First, I have become aware in preparing for these hearings of the significant progress that has been made in the last year, or 2 or 3 years, in trying to gear up the national effort, and I compliment you on that. But I still have the distinct impression, based on a lot of the other testimony, that we really are nowhere near as capable as we need to be in assessing performance of students in order to make good policy at various levels. Some of that is because there are inhibitions or restrictions placed in legislation, some of it is lack of funding, some of it is just how quickly you can gear up to do the various things that people may now like to see done.

What, in your view, if we were to take a most ambitious scenario and say what could NCES plan to accomplish in the 1990s if Congress provided the necessary funds and the necessary direction and all, what would you see, what would you like to see NCES be able to do over the next 10 years in expanding its present testing and monitoring activities?

Mr. ELLIOTT. In this case, Senator, I believe your question is limited to student achievement assessment, primarily, rather than——

Senator BINGAMAN. Well, that, but also the indicators as to schools' performance as well. I mean, in all of these areas, if you see all of that as part of your jurisdiction, tell me what you would like to do. What would you like to accomplish if we could write you a blank check and say have at it for the next 10 years?

Mr. ELLIOTT. That does indeed open it a very great deal and one thing that I want to say at the outset is that our role is to provide the data that policy makers ask for and determine what would be the role of the Center, rather than to advance policy positions. I am trying to remain within those bounds in some way. Let me begin at least with assessment activities.

The original proposal that was advanced by the Alexander James Commission and that was eventually forwarded to Congress called for three subjects and three grades each biennium to be tested State by State. And the notion was if there were that many subjects being tested and there was some rotation between reading, mathematics, writing, science, and history/geography, that over the period of say a decade you would come back frequently enough to the same subject areas that you would have an ongoing assessment that would be adequate. That amount of assessment would fall within the range Dr. Boyer was describing. As the Congress finally enacted it, it was a pilot project only. That is, only in mathematics in one grade in 1990 and two subjects added in grade 4 in 1992.

My experience has been that we have a very large order simply to put the pilot in place, because when you move from having a nationwide assessment, which is what the National Assessment of Educational Progress has been, to a State-by-State assessment, you enlarge the scope of the enterprise enormously. So I would say that the judgment of the Congress in starting the entire effort as a pilot project was a very good judgment.

Moving beyond that, I would return to the original proposal that was advanced by the Administration and considered by the Congress, that the direction that we would like to move is for three subjects in three different grades each biennium, as a goal.

But I want to make another point as well which goes beyond this. At the same time that people are talking about setting goals for American education, there are major changes underway, fostered by the curriculum associations and many other people, about the content of the curriculum. And there are many things underway about how testing is done. Dr. Boyer, for example, gave several examples of things that are not now tested by the National Assessment of Educational Progress. We don't, for example, test motivation or persistence or ability to work in groups, or other kinds of social competencies.

There is a lot of interest and debate in States and in school districts and among test developers about how testing is carried out. And that debate will affect the National Assessment of Educational Progress as well, so that some of the things that people are now beginning to identify as deficiencies of multiple choice tests, which are only in small part addressed by the National Assessment of Educational Progress, also have to be a part of our agenda for the 1990s in the National Assessment of Educational Progress.

One of the strongest goals for the National Assessment has been to maintain trends. One reason that the National Assessment is now so valuable is that we are able to go back, not at 2-year intervals, but about 4-year intervals, back to 1969 and 1970 and look at change—at what has been the change in improvement or change in direction in reading or writing or science or mathematics over the last 20 years at these successive intervals.

But as people talk both about changes in the testing methodology and changes in the curriculum, those trend lines will have to be altered, because we could be measuring different things. It will be a major job for the National Assessment to put together both the challenge of how to maintain trends so that the data are valuable, and how to keep up with the state of the art in testing. So I view this as a double challenge for the National Assessment in the 1990s.

On your broader question, let me give one answer that I think is very consistent with the approach the Congress has taken to this so far, and that is, what are the measures of American education that are important? When the Congress enacted the Hawkins-Stafford legislation in 1988, they called for the establishment of a panel on education indicators that would include many distinguished citizens from around the country and that would identify from the thousands, literally thousands, of bits of information that we have and that States have that describe all kinds of things about education, which are the ones that really show the condition and progress of education.

That is an important policy judgment, one that is not appropriate for the National Center for Education Statistics to determine alone. So this panel, which has now been appointed and which Alan Morgan will head, will first meet in November and about a year and a half after that they will be making a report to the Congress about what are the things that should be followed in order for everybody in the public arena to understand the condition and progress of education. I am convinced that the result of that panel will be to guide the development of the data agenda for NCES. It may well suggest that we should change our collections, or modify them in some way, or do different things, but that will be an important guide.

Senator BINGAMAN. I am a little confused as to whose job is whose. We have this national panel on education indicators that you have referred to. I believe Chester Finn, as the chairman of the board for NAEP, indicated that they have a mandate under the recent legislation to establish goals for education, which they have not gotten on with, but they have that mandate.

The Governors have announced their intention to establish goals for education. Could you clarify for me who is doing what? I know there is a difference between goals and indicators, but I am not too sure that everybody else knows, or that I know, precisely how you divide this pie up and who is reporting what to whom. If you could explain it, I would appreciate it.

Mr. ELLIOTT. I think we are in the middle of the process some place. I think many of us who have been around the Federal Government for a long time are finding so much new rhetoric and so many changes in the way of looking at national education issues that it is hard to keep up with it.

Indeed, the Governors have some sort of group to formulate goals. The Governors and the President have together identified areas in which they want to establish goals, but that is not the same as saying exactly what the goals are. Presumably the goals, when they finally are enunciated, will have some sort of numbers or something specific attached to them.

In that regard, Mr. Chairman, I might refer to a report that was put out by the Southern Regional Educational Board, which is a group of southeastern States of Governors and legislators and school people who are very much interested in furthering education and from time to time they make use of data to further education in the southeast.

Well, this year they put out a report called "Goals for Education" that the southeastern States wanted to consider adopting. And let me just state one as an example of the process, because my guess is this is the way that the governors and the President will proceed. One of the goals is: "student achievement for elementary and secondary students will be at national levels or higher by the year 2000." They have listed after that 8 or 9 specific measures of progress against that basic goal. So, for example, one is: "establishing and publicizing specific student achievement goals by schools, district and States." And another is, "reporting of student achievement results by divisions such as quartiles"—upper one-fourth, middle two-fourths—to keep the focus on helping all students make progress.

The point is that the SREB as they thought about goals also thought about measures. I think as the governors and the President work on goals that the conversation of what are the appropriate measures will come up.

Now, indeed, the Congress' authorization of the indicators panel was some months prior to the Governors and the President making their announcement, and one of the things that we will be discussing with that panel is what is their perception about how it fits in with the efforts of the Governors and the President. I do think we do have to work on how all these pieces fit together.

The role of the Center, finally, is to be a data collector for whatever it is that emerges from all of this as an assignment to the Center, if any.

Senator BINGAMAN. I have one other question and then I will let you go, because we have several other witnesses here. The question relates to the problem of getting this information in a timely fashion. Some of the testimony we had last week at the hearing indicated that the results of the 1990 testing of eighth grade math will be available at the soonest about 15 months after the test is conducted. The test would be conducted in February of 1990. That means I guess May of 1991 or June of 1991 we would have some results.

What can we do to fix this problem? Is this a lack of funding? Do we need to change the contractor that is doing the testing so that they can get the information back more quickly?

Part of the other testimony we had last week was that California does their testing and tests more students than we do at the national level and turns the results around much more quickly than we seem to be able to at the Federal level. What do we need to do to fix that?

Mr. ELLIOTT. Senator, providing data from the national assessment is really a very difficult undertaking and the data have frequently come out from 18 to 24 months after they were actually collected. It is a complicated undertaking because the sampling process is very complicated. In the case of California, they have a complete test about an individual student and they are able to score it very readily for that reason. In the case of national assessment, only a small portion of the total test is given to any one student, and there are many, many statistical manipulations and editing and reviews that are required to put all of the data together.

In addition, California continues to give the same test each year and it is interested in looking at the scores on that test. But in the National Assessment of Educational Progress, the Education Testing Service has developed a new way to scale the scores that is much more useful to policy makers because you can look at not only what the averages are but the tops and the bottoms and you can describe what students can do at each point on the scale. In addition they have pushed that scale back through all the 20 years of national assessment data, but what that means is that every time they put out a national assessment report they have to go through all the 20 years of data in reading, or all the 20 years of data in mathematics, so that we can develop a scale that is consistent with this report.

We are very much aware that late reporting is a problem and when the request for proposals was put together we asked the contractor to come in with a proposal to get data out within 12 months instead of the 24 months that it had frequently been. We now have a contract plan that is intended to get data out within 12 to 15 months. I think, finally, all I can tell you is that we are very much aware of this problem and we continue to look for ways that the data can be reported out, or at least summary data can be reported out on an earlier basis, but that remains a considerable challenge for us. It is not a problem of money.

Senator BINGAMAN. Well, thank you very much. I am sure again we will have some other questions as we go along, and we will continue to call on your office. We appreciate your willingness to be here today to testify.

Our third witness is Dr. Lois-ellin Datta. Dr. Datta is Director of Program Evaluation in Human Service Areas in the Program Evaluation and Methodology Division of the General Accounting Office. She served as president of the Evaluation Research Society prior to joining GAO in 1982. She served also as the associate director of the Teaching and Learning Division of the National Institute of Education and as director of the national evaluations for Project Head Start in the Office of Economic Opportunity and as director of research for the U.S. Children's Bureau. And I understand you have Mr. Mulhouser with you, who is the assistant director for your office. We are very pleased to have you here.

TESTIMONY OF LOIS-ELLIN DATTA, PH.D., DIRECTOR FOR PROGRAM EVALUATION IN HUMAN SERVICES AREAS, PROGRAM EVALUATION AND METHODOLOGY DIVISION, U.S GENERAL ACCOUNTING OFFICE, WASHINGTON, DC

Dr. DATTA. Thank you, Mr. Chairman. It is a pleasure to be here today to report to you on information on education in the United States which we have drawn from several recent GAO studies. With your permission I will summarize my written statement and request that the full text be entered in the record.[1]

Senator BINGAMAN. We will include it in the record.

Dr. DATTA. Thank you. I will address three questions which we believe to be relevant to the overall topics of these historic, important hearings. First, what has changed over roughly 15 years? Second, what are some of the reasons for these changes? And third, how far—that is, from the national to local levels—does the situation extend?

Turning to my first question, we found in a 1987 review, which we have partially updated, declines in the quantity of information, shifts in priorities that may not reflect optimum balances, and reasons for concern with the quality of information. With regard to quantity, we found that federally sponsored research, statistical and evaluative information on education declined dramatically since 1980. For example, research grants and contracts awarded by the research arm of the Office of Educational Research and Information decreased from roughly 476 in 1980 to 168 in 1985 and to 79 in 1989. Evaluation awards declined as well, from a peak of 119 in 1980 to 20 in 1985, and then moved slightly upwards to 36 in 1989.

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[1] See p. 173.

Statistical surveys planned or conducted by the National Center for Educational Statistics grew from 37 to 55 between 1974 to 1980, but then dropped again to below the 1974 level by 1985. While this is turning around, lost statistical series cannot be recaptured.

Not only was less information produced by the end of the period we reviewed, we also found changes in what was examined and by whom. When we reviewed research priorities, we saw a shift away from new data production to service oriented activities such as the dissemination of results. We also found that fewer educational areas were investigated by research grants in 1985 than in 1980, even for topics that had frequently been identified as important areas for educational improvement. There were few awards for new data collection in 1985.

Further, there was a shift in who carried out the work of producing information. The proportion of research awards made to Department-sponsored institutions increased substantially. This shift is a concern since contracts can potentially constrain rather than broaden inquiry, and lack of opportunity may have a chilling effect in attracting a first-rate group of new researchers to dedicate their prime years to education.

With regard to information quality, in our 1987 review we looked at four indicators—relevance, timeliness, technical adequacy and impact—for three illustrative statistical series. Grades ranged from B-plus to D-minus. We found that NAEP ranked high on all four dimensions but had suffered some decline in relevance and timeliness in adapting to fiscal constraints; for example, reducing the number of age groups assessed from 5 to 3, and assessing each subject less often.

The common core of data was not ranked as high on any of our four indicators and longstanding problems included non-comparable data across States. However, we have seen commendable recent efforts to improve the common core of data.

Turning to my second question, what are some of the reasons for the situation we observed? We found that resources play a major role but that lack of money was not the only issue. With regard to funds, there has been a relative poverty of research dollars in the midst of a relative plenty of interest in education. Since the mid-1970s the National Institute of Education and its successor offices experienced a 79-percent reduction in purchasing power. The National Center for Educational Statistics experienced a 65-percent reduction in purchasing power. That was considerably more than declines experienced by other Federal statistical units in a comparable period. Further, the resources for evaluation declined 64 percent in purchasing power. These reductions were in sharp contrast to a 38 percent overall increase in the Federal investment in education in the same period.

We note that this downward trend in funding requested by the Administration for research and statistics has been reversed and appropriations have risen somewhat since 1987, reaching 78.2 million in fiscal year 1989 and a projected pre-sequestration of 96.4 million for this year. However, even if all of the fiscal year 1990 appropriations are eventually approved, the total resources will be at about 75 percent of the 1980 level in purchasing power.

It is hard to play catch up with information. Further, the interval between increased appropriations and having the resulting data available to improve education can easily be 5 years or more. Also, increases in funds need to be considered in light of increases also in mandated responsibilities.

Money is not, however, the whole story. Congressionally mandated activities received smaller reductions than other work and thereby consumed an increasing share of available resources. Also, changes in leadership, staffing and priorities created instabilities that affected the reduction and quality of information in the period reviewed. Top management changed often in each of the information units. For example, the National Institute of Education had a total of seven different directors from 1980 to 1986, three of the seven serving as acting directors.

OMB's paperwork review process is, we believe, another influence on education information. In our recent study of how OMB handled information collection requests from 1982 to 1987, we found that of the 211 agencies we reviewed, 80 had approval rates over 100 percent in 1985–87, but the Department of Education was less successful. Its overall rate was 89 percent during this period. Although the approval rate for the Office of Educational Research and Improvement, which includes both research and statistical activities, was 93 percent for 1985–1987, for the evaluation office the rate was only 69 percent.

We found across all agencies that data collection requests which were both new and centered on research evaluation and statistical information were approved the least often of all. In an active, evolving, information gathering program that seems like just the sort of request likely to predominate and again, often the information is time critical.

Turning now to my third question, how far do problems extend with educational information? I will conclude with observations from our recent evaluation of the initial effects of education reform involving about 61,000 students in four school districts in four States. We began by working with five large urban school districts, one of which after months of work finally could not produce usable data for the study. Within the remaining four school districts there were numerous problems with the data. Limited computerized student background data narrowed our ability to track the separate at-risk groups in which there is often a great deal of interest. Limited data on dropouts meant that we could analyze that outcome only in two districts which kept a track of dropouts registered elsewhere, and limited computerized transcript data made it impossible to track the reform effects on the courses students took in two of the four districts.

We note that a significant effort is being made by officials of the National Center for Educational Statistics and non-government groups such as the Council of Chief State School Officers to improve data gathered at all levels so that national aggregate figures are increasingly useful and reliable. Still our experience may hint at the magnitude of the challenge they face.

Mr. Chairman, in summary, we are concerned about the kind, quantity and quality of education information. Despite recent increases in the budget, resources for this function are still much lower than they were in earlier years, while demands for data and understanding are increasing. The central review function of OMB needs improvements as well, and finally, local data require major efforts to aggregate for analysis. We believe the recent developments in the education department move us notably ahead, including specific data improvements and the proposal for a new independent evaluation of the condition of information that would establish a useful updated baseline against which to measure progress and information and set priorities for further effort.

Still, our findings suggest that sizable further work lies before us if we are to properly assess common schooling, not to mention new waves of reform or the world of education beyond the classroom. If I may be permitted an analogy, if education information were World War II, relative to current expectations, we are about one year after the Pearl Harbor of years of relative erosion, mobilized but still fragile. If I were asked to summarize what might be done to improve it, I would paraphrase blood, sweat, toil and tears and say patience, prioritization, stabilization of leadership, funding and the kind of continued caring and oversight these hearings show.

This concludes my remarks. Mr. Mulhauser and I would be happy to answer your questions.

Senator BINGAMAN. Thank you very much. We appreciate that testimony and appreciate all the work that you and GAO have done, to look into this set of issues. Picking up on your analogy that we are 1 month after Pearl Harbor and that we have got the rest of the second world war to fight, you indicated the level of funding that the Federal Government is providing at the present time is about 75 percent of what we were earlier providing in actual purchasing power to make these evaluations and provide this information.

Do you have any estimates as to what we need to look at if we were to take on the full responsibility that everyone seems to be readily talking about, the governors are talking about, the President is talking about? Dr. Boyer indicated his general ideas as to how much testing would be useful and important to us in making policy.

Do you have any estimates as to what we are looking at to get from here to there?

Dr. DATTA. I would like to make two comments on that. I think first, Dr. Boyer had summarized the types of general questions that are perennially asked: What is being taught, broadly conceived? What is the process of schooling? How is it being taught? What are the students learning?

And Mr. Elliott added the perennial fourth question which is how much is it all costing: is it efficient?

I would add to these three other types of perennial questions: Against an absolute standard, how well are we doing? Are the students learning enough? With regard to trend lines, are we getting better, are we getting worse, are we staying the same? And comparative question, how do we compare with what other countries are doing?

This alone would generate a matrix of 12 cells, but it gets considerably more complex as you start dealing with targeting issues. For example, do you want to ask these questions for public and private schools? Do you want to ask them for early childhood education, elementary, secondary, post-secondary and nonschool settings? Which subject areas of education do you want to ask about?

So the focus on the perennial questions swiftly broadens into a very large set of options indeed. The work already underway to prioritize what would be most important from a national perspective can prove to be, if we are able to sustain the momentum of this project, an extremely useful guide. The governors and other leaders are getting together to expand the matrix, to consider it as fully as possible, and then to see where to set priorities, which information is the most crucial.

Senator BINGAMAN. Let me ask on the comparison issue, the comparison of how we are doing with other countries and their school systems, it would seem that in this ongoing debate about what should be done with education, reliable and regular information comparing us to other countries would be very useful for policy makers in deciding whether we are doing what we should. I know that seems to be outside the scope of the report that you did.

Is there any work going on in GAO that you are aware of to make those kinds of comparisons? Is it possible to make those comparisons?

Dr. DATTA. It is outside the scope of the work we did in detail, although I can certainly note from prior experience that in my personal opinion support for such studies as the international assessments, which have not always been forthcoming from the Department in the past, could be extremely valuable. It would be possible to identify some of the reasons why the United States appears to have different trends or be lower than other countries in at least some of the assessments. A full analysis would require the kind of investment in studies of comparative education, statistical analysis and some data collection where we are still playing catch-up.

Senator BINGAMAN. Well, I am sure that we will have additional questions as we continue to burrow into this, and I will not belabor it at this point, but I think it is obvious from your study that we have some major deficiencies and we have not exactly used the decade of the 1980s to our best advantage in dealing with these problems. I think you make that case very strongly, so I appreciate very much your testimony today.

Dr. DATTA. Thank you, Mr. Chairman.

Senator BINGAMAN. Let me now call our fourth panel, Mr. Gordon Ambach, who is here today with Mr. George Hall. Gordon Ambach serves as the Executive Director of the Council of Chief State School Officers. He served for 10 years as the New York State Commissioner of Education, President of the University of the State of New York.

Mr. Ambach's career has centered on education policymaking and legislative development, and a special interest in the relationship between local, State and Federal Government responsibility.

We are going to have both of these gentlemen testify on this panel. Mr. George Hall is President of Slater Hall Information Products. Mr. Hall specializes in the statistical field, owns and manages his own statistical firm, and had the primary responsibility for managing the 1980 census. He is author of the report "Alternatives for a National Data System on Elementary and Secondary Education," which was prepared for the Department of Education. We look forward to hearing from both of you.

Mr. Ambach, will you please testify first.

TESTIMONY OF GORDON M. AMBACH, EXECUTIVE DIRECTOR, COUNCIL OF CHIEF STATE SCHOOL OFFICERS, WASHINGTON, DC [1]

Mr. AMBACH. I would be pleased to, Senator. Good morning to you, Senator Bingaman and members of the staff, and thank you for this opportunity. I applaud your initiative in holding these hearings. I would ask that my statement be submitted. I would really prefer to speak from it, and particularly to add some points which might be responsive to some of the exchanges that have already occurred this morning so that there is a flow of the discussion.

Senator BINGAMAN. Good.

Mr. AMBACH. I am speaking for the State superintendents and commissioners, including your own Alan Morgan, who was referred to at an earlier time. Alan does chair our own Council Committee on Assessment and Information and, as you have learned from Emerson Elliott, he now has that special responsibility of chairing that indicators panel. We will make sure the activities of that panel are integrated to the best of our ability with the other activities mentioned at an earlier time.

Mr. Chairman, I also serve as the chair of the advisory committee for the R&D center at UCLA, which focuses on research and evaluation, and as a member of a newly formed board under the National Academy of Sciences which is concerned about international comparisons of education. I think both of those activities are probably also relevant to the inquiry which you have in these hearings.

May I make a general observation about testing and education information. There are enormous numbers of tests and an enormous amount of testing and an enormous amount of education information around and about local schools, school districts, States, and indeed at the national level. Teacher tests, school tests, district tests, State tests, national tests, international tests, and yet, as has been observed here, when we come to ask about nationwide information or state by State comparisons, there seems to be an incredible void. We have got this enormous amount of information and yet it doesn't seem to be organized in a useful way, particularly when we look at nationwide, international or state by state comparisons.

I emphasize this because I think it is absolutely critical in your inquiry to keep an eye on what is happening in localities and

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[1] See p. 200 for Mr. Ambach's prepared statement.

States. In my judgment one of the critical issues for this next decade is how we integrate the assessment systems which are in place at school, school districts, State and national levels. Indeed, if we do not integrate them we will find a mismatch on concern of what the goals are and what information we have about those goals and assessments about those goals. We will also have a problem of overlap, duplication, and a considerable amount of activity which is not well connected with respect to assessment and information.

You referred to my service before coming to Washington. New York State probably has the most extensive assessment system of any State in this country. It is not referred to much in discussion of recent reforms because it has been in place for a hundred years. When a system has been in place with regents exams for 100 years, while other States are considering putting in tests of physics or chemistry at the high school level, your practice is not a "reform". And yet every year in New York there are 26 different examinations at the high school level for public and non-public school students subject by subject, as well as an extraordinary array of other tests which are available within that state.

The experience of New York and others speaks to one of your major interests, how does this information penetrate through to local school districts, schools, to parents—those making decisions at the local level? You might want to have a look somewhat at the New York experience. Starting in 1984 we began producing a school by school report card for 6,000 schools each year, both public and non-public, assembling the information and providing it for all to consider at the local level.

My key point though is to keep in mind this extensive activity, State and local, with respect to how it informs the decisions to be made here at the Federal level.

I really would like to make three points, Senator, on your inquiry. The first one has to do with the amount of resource which the Federal Government divided toward educational statistics, information or assessment. You have asked previous colleagues about what should be the appetite. Well, I will offer an appetite, which is a very large one, and I do it somewhat hesitantly because of the budget crunch.

In 1984 our Council advocated a six-fold increase in what was available to NCES and the education assessment program. We still advocate increase which means an increase from about 40 million, which is in the fiscal year 1990 budget as approved by the House and the Senate, to $240 million. This sounds like an extraordinary increase, unless one takes a look at some other governmental functions.

If you look at health, we are now spending approximately $300 million a year on statistics for the health of Americans.

If you look at agriculture, it is about $240 million a year on statistics. For Labor, it is about $225 million a year. Those figures, incidentally, I have received from the OMB where they produce an annual report on the statistical and information expenditures for different agencies.

I have rounded these numbers. I think what is important here is a sense of order of magnitude. As we look at a $200 billion education system across the country in expenditures, local, State and Federal for education, and then see 40 million at the Federal level, for data, we are looking at a starvation diet for statistics information and assessment. That must change. It certainly cannot change in a year, but if I were picking a target through this next decade, I would move toward a target which would be carefully prescribed by way of objectives for education, and I would keep the target in the context of what this country is spending for information about other functions.

I would put a strong stress, as others have this morning, on the fact that the context for assessment has changed. This is very important to the States and the localities. While this Nation, with its dedication to decentralized schooling, has always been concerned about the local control and State control of information, there is a sea of change in the last decade with respect to a concern for the national level.

I submit perhaps the most important consideration for the next decade is nationwide information about education related to what is happening in other countries. No longer is a parent looking at the question of the child's education related to the other kids down the street, or from the next neighborhood or the next state; it is now an international context. It is clearly a national responsibility to have information about assessment and education nationwide.

Let me make a second point on the process for expanding assessments and information. I make this point in the context of what I have just been saying about the change of concern about national goals and nationwide interests in contrast to a sole focus on decentralized management and control. The fact is that we must have multi-level assessments, and indeed, even multi-level goals and objectives. We are not swinging totally to single nationwide goals or objectives for education. There has got to be lots of flexibility. There should be nationwide goals, we strongly support that. But there must be a pattern of their fitting together with State and local goals. That is very important by way of how we see systems of information, locally and State, fit with any national pattern.

In order to pull this off in the next decade, there have to be mechanisms to fit these different levels of Government together in an intergovernmental way. There are a couple of interesting examples here. Our Council managed the process for NAEP of setting the objectives for the mathematics examination to be given in spring of 1990. It had not been done before. Nobody tried to pull together local or State or national representatives to see if we could get an agreement on the objectives for the test. It occurred and it was done, I am proud to say, very, very well.

We are now doing the same thing for the NAEP test of 1992 on reading comprehension. So there are ways, in conjunction with NAEP, with NCES, with the Department of Education, with the State agencies and localities, to pull together this intergovernmental concerns and activities.

It costs money in order to build consensus, to convene people and get them to work on goals, assessments and information systems. That is properly a part of Federal expenditure.

The third and the last point that I would like to make this morning, Mr. Chairman, has to do with the emphasis that should be placed at the Federal level over the next 2 or 3 years. Concerns about information on teacher quality, curriculum offerings, international comparisons, and so on fill the platter. Data to be collected on facilities, on finance, on the system characteristics must be added.

We would put the top priority right now on the development of the assessment system. Where choices have to be made as to which part of the overall information system is to be developed, we would put the emphasis on the assessment system. That means principally a build-up of NAEP.

You have asked questions about NAEP this morning. How rapidly can we build this system? How many subjects should we be testing in each 2 year period? And, the most important cost question is, as Emerson Elliott pointed out, if we build out NAEP to a State-by-State basis, how do we handle the cost increases?

We can not simply use the NAEP sample from each State otherwise used in the nationwide sample to pick up State-by-State results. We must build an additional sample in each State to get a sufficient number of subjects in order to be able to draw conclusions about the results in that State. So you can see, it requires almost a geometric increase in the cost.

But that is the top priority, to build out the NAEP and to do it in close conjunction with the States, by working as much as possible on developing what I call a multi-level assessment program. NAEP is now being used for nationwide information in part for some international comparisons, although that is in its very, very early stages. In part it is now being used on a State-by-State basis.

Senator **BINGAMAN**. Mr. Ambach, Im sorry, I must interrupt for a moment. We are halfway through a 15-minute vote over on the floor. What I would like to do, and I apologize to both you and Mr. Hall for this, but I need to interrupt our hearing for about 10 minutes. We can take a recess, and I will go vote, return right away, and then we will continue and complete your testimony and hear from Mr. Hall.

We will stand in recess for 10 minutes.

[Brief recess.]

Senator **BINGAMAN**. Why don't we start the hearing again.

Mr. Ambach, if you would go ahead and complete your testimony, and then we will hear from Mr. Hall.

Mr. **AMBACH**. Thank you, Mr. Chairman. I have just two more points that I would like to make.

I was speaking about the focus of attention on assessments, and I want to make just one last point about that. A reference was made this morning to the wall chart, which over the past few years has become a kind of an annual ritual. I think the wall chart is probably this Nation's prime example of a starvation diet for educational information and assessment. The wall chart was created, with the best of intentions, not on a concept of what should be national goals and what would we want to measure to see if we were getting there, but frankly, on the basis of using whatever information was available. It turned out there were three pieces, SATs and ACT's, retention rates from grades 9 to 12, and a couple of years ago, the addition of a percentage of advanced placement exams written to the total of 12th graders for each State.

Now, that is hardly an indication of what is happening in education, but we are not going to replace that wall chart unless there is an investment made in a nationwide assessment system which then can report to us nationwide and also on a State-by-State basis.

The last point that I would make is not in the written statement, but it comes to mind because of your exchange with Ernie Boyer. This is on the question of the means for following through on setting assessments and goals. I invite consideration of legislation the Senate and the House passed in 1984, and the President signed, which called for a summit conference on education. It was funded twice. Most recently it was funded at $500,000 in the appropriation for fiscal year 1989, a permanent appropriation to the Department of Education.

If the governors and the President do develop a set of goals, or tentative goals, at the end of February of 1990, I suggest the conference called for in the summit act, sponsored by Senator Pell and Congressman Pat Williams, be a very appropriate vehicle to examine the issues of assessments and information related to new national goals.

Thank you very much, Mr. Chairman, for the opportunity to be with you this morning.

Senator BINGAMAN. Thank you very much. I appreciate your testimony and I will have a couple of questions after Mr. Hall testifies.

Mr. Hall, why don't you go right ahead.

TESTIMONY OF GEORGE E. HALL, PRESIDENT, SLATER HALL INFORMATION PRODUCTS, WASHINGTON, DC

Mr. HALL. Thank you, Senator. I appreciate the opportunity to appear here before you and to talk about the present and future of education. Most of the points that I want to make have already been touched on by other people, so with your permission, I would just like to present highlights and submit this testimony for the record.[1]

Senator BINGAMAN. That will be fine.

Mr. HALL. I have been a close observer of NCES for many years. Most recently I had the honor of being on the Advisory Council on Education Statistics. From that vantage point I have had a chance to observe the Center from close range.

I think it is instructive to look at some history to place some of my comments in perspective. Dr. Datta talked about some of the decreases in education funding over a period of time, I was just commenting, during the break, that during the period when I worked in statistical policy at OMB, I was always surprised that education statistics received less funding than any of the other social statistics activities.

About 5 years ago my company (Baseline Data Corporation) was asked to look at the entire Federal statistical system to examine the impact of budget reductions, the impact of paperwork reduction, from the period 1980 to 1985. I discovered that during this period there had been a decrease in funding for NCES of 28 percent, and also a decrease in staffing from 173 to 125. Interestingly enough, of the 125, 10 percent were forced into the Center because of a reorganization in the Department, including two members of the Senior Executive Service.

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[1] See p. 208.

I think with that kind of history it is small wonder that the performance of the agency was lackluster at best. In fact, the Department in 1984 asked the National Academy to do a review of the Center's performance. I would like to quote the Academy's conclusion: "Without strong and continuous commitment to change both the image and reality of the Center, serious consideration should be given to abolishing the Center."

That is pretty strong language. Fortunately, by the time the Academy report was actually published, Emerson Elliott, with the support of the Department, had made great strides in turning things around. I mention that because of some of the discussion Senator Kohl had this morning, and that is about the political stability. It makes one very nervous to recognize that this agency, which really is the center for education statistics in the United States, has such a fragile base. This is of great concern to me. In my years on the advisory council I watched with great concern as NCES' resources were stretched beyond its capacity by new initiatives; I now hear a great deal of talk about further expansion of their role.

Mr. Ambach talked about the six-fold increase in funding. One of the problems with increases in funding is that frequently personnel changes don't occur at the same rate. I remember when I was at the Department of Justice I was asked to set up a statistics center, and I was given $1 million to do it. Within 5 years I had a budget of close to $50 million for criminal justice statistics.

Mr. Chairman, by that time I had 25 people and a budget of $50 million. That is the same kind of danger that the Center faces if you get large increases in resources, in financial resources, the people may not follow those resources, and I think it is extremely important that resources be kept in balance.

Everyone has referred to the Charlottesville summit; I would like to quote from the Governors' statement. "As elected chief executives we expect to be held accountable for progress in meeting the new national goals, and we expect to hold others accountable as well. When goals are set and strategies for achieving them are adopted, we must establish clear measures of performance and issue annual report cards on the progress of students, schools, the States and the Federal Government."

And the President, of course, strongly endorsed these sentiments. Assume that those statements are to be taken seriously as a guide to action, many serious statistical questions arise. We have been talking about NAEP here this morning and NAEP was a center of discussion last time. Let's assume we want to expand NAEP as we know it. A rough statistical rule of thumb suggests that if you wanted to expand NAEP to be able to compare school districts, you would need as large a sample in each school district as you would have now in each State. There are more than 15,500 school districts and the six-fold increase that was referred to would pale before the requirement of expanding NAEP to this extent, and we have not gotten to schools yet.

I think, by the way, that an undertaking like that, that kind of expansion of NAEP would be so excessively costly that I doubt seriously that the Federal Government would want to start that process. However, there is a role for the Federal Government, and that role is a coordination, a leadership role, a role to work with the chief state school officers, to work with other groups to establish mechanisms for developing the statistical base which would permit making these kinds of comparisons, for making these kinds of assessments. But I really cannot think that the Federal Government would undertake it directly.

Also, I would hope that the groups that are managing the "summit" process of defining specific goals, will use the Center and other Federal statistical agencies, as appropriate, as resources to help articulate specific goals which can be measured reasonably. It is very easy to define a goal and then discover that there is no practical way of directly measuring that goal, I don't know if this Committee could have any impact on that process or not, however I think it would be very useful to have some kind of interaction between the statistical agencies and the "summit" process.

In my prepared statement I place a great deal of emphasis on quality, and I am just going to touch on that issue, but again, it comes from my fear of what can happen. The Center is going to be pushed, it is going to be pressured to expand rapidly the amount of data that it can produce, that it produces, and the timeliness of the data. Frequently people will refer to the fact that why can't the Center, or any Federal statistical agency for that matter, get data out more quickly. The Gallup poll is able to produce data in a week, why can't somebody else be faster. But I think Emerson Elliott put that in good perspective this morning when he talked about the sampling and other statistical issues with NAEP.

I would like to conclude with one issue that has not been touched on by earlier speakers, and that is to point out that there are—well, I guess Emerson touched on this—there are other Federal agencies which collect data having to do with education. The Census Bureau, for example, provides a great deal of baseline data from the decennial census. Its current programs, with support of NCES, produce annual data about schooling and related subjects. The census of governments provides comparable information which permits you to look at education spending and compare it with expenditures for other activities, such as highways, parks, and recreation.

The "summit" also included in its list of goal areas safe, disciplined, drug-free schools. The Bureau of Justice statistics clearly has a role here. In fact, I understand that they have just scheduled a supplement to the national crime survey concerning crime in schools. The goal concerning training levels for a competitive work force must involve the Bureau of Labor Statistics, which already produces national productivity measures.

Many of the problems resulting from increasing demands will be felt by these specific agencies, and indeed, the entire statistical system. NCES has by statute the lead role in collecting statistics at the Federal level and working in cooperation with States in developing consistent sub-national statistics, and that is how it should be. However, there should be coordination between the other Federal agencies and the Center to make sure that a complete picture of education in the United States is available, particularly as it relates to these goal areas.

Ordinarily that kind of coordination would be the role of the Office of Management and Budget. However, absent providing additional resources to OMB's statistical policy area, I think it would be useful for NCES to organize an interagency committee to perform this valuable coordination function.

Mr. Chairman, that completes the highlights of my testimony and I would be pleased to respond to any questions that you might have.

Senator BINGAMAN. Thank you very much.

I believe both of you were here when Dr. Boyer testified. Will you give me your thoughts on his suggestion that perhaps an independent, non-government National Council on Education Standards should be established. As I understood his suggestion, he thought that the council would be an ongoing organization, or at least one that would operate for 3 to 5 years to establish standards and would include people from Federal Government, State government, and local areas, to try to begin to make sense out of this.

Is this something that is duplicative of what is already going to happen? Is it needed? Is it too elaborate a mechanism to deal with a more discrete problem?

Mr. Ambach, will you give me your thoughts on that, and then Mr. Hall.

Mr. AMBACH. Yes, I have some thoughts about it. It may be that we should establish something like that. I am not certain this is exactly the time to set the mechanism. If another name were substituted for the council, it would be a national school board. But it would be without the resources to put into effect its goals or standards. I worry about development of formal mechanisms which seem to have an authority or responsibility and are given very, very large charges but don't receive the necessary wherewithal to be able to put what they say into effect.

I suggested earlier, Mr. Chairman, what might be a step to this, but I think a sensible step. We might focus on March 1, 1990, which is after the National Governors Association's next meeting, a time they are meant to have their goals and some ideas about the assessments necessary to measure those goals or progress towards them. At that time you might use the mechanism which is already authorized by the Congress to convene a large broadly representative panel. I think this would be a very important step to examine both what comes from the goal setting by the Governors and also to review and specifically analyze the kind of proposal that Ernie Boyer was making. We need to overcome the problem of having a kind of special panel which is examining goals or objectives which is left dangling with no real connection into the rest of the decision making process. Such a panel must have a real connection to where resource decisions are going to be made, here in the Congress, the Senate, with the President, and all of the State levels.

I hope that might be useful. It is not a rejection of the notion, but a suggestion toward it. It would be useful to look pragmatically at a next step post March 1 when there will be some revelation of goals coming from the President and the NGA work.

Senator **Bingaman**. Mr. Hall, do you have thoughts on this?

Mr. **Hall**. I concur very much with Mr. Ambach. I particularly get nervous when we start looking at things that may go on in perpetuity, or even for a 10-year period. I am much more comfortable with the notion of having a group, a knowledgeable group, meet and look at some of the standards that are already being proposed. Just to keep iterating these kinds of organizations I don't think is terribly useful unless they have a specific mandate.

Senator **Bingaman**. All right. I have one final question that I would like to ask either of or both of you to comment on if you would. I think Mr. Hall, you framed it in some of your comments, that we have quite a dilemma here. We have increased needs for information and recognition of increased needs for information. At the same time we don't want to load so much on the camel that it can't move.

Maybe you have additional thoughts as to how ambitious the Congress should be—if you could ever get consensus in the Congress—how ambitious should Congress be in trying to move ahead with this? I am concerned that on the one hand, as Dr. Boyer says, we don't have a sense of urgency. Everybody says, well, in 18 months we will have some tentative suggestions for you. But these 18 months begin to add up, and after awhile you are no longer talking about the 1990s, you are talking about the next century.

So we have that problem, and at the same time I recognize that it is difficult to take the National Assessment, for example, or the Center, and take it from where it is to where we need to be overnight. So I don't know how we balance those things off. I am groping for any guidance either one of you could give us as to what is realistic to expect if we are going to try to address these problems as serious problems that are not just to be institutionalized.

Mr. **Hall**. Senator, I do, obviously, have some ideas about that. I wouldn't want my comments to be taken as not supporting significant increases of funding for the Center. To the contrary, I think those kinds of increases are needed and I think that clearly if the summit process develops a sense of urgency that this is the time I guess—if I can use an old cliche—to strike while the iron is hot.

My concern is that the human resources frequently don't go along with the financial resources. The Government never wants to expand the number of people in Government, with good and sufficient reason. But I submit that the Center at the moment is marginally staffed for the things that are currently on its platter. So I am looking for balance, but I do think that the kind of increase that Gordon Ambach talked about is not unreasonable at all.

Senator **Bingaman**. But with it would have to be the professionals to actually carry out the work.

Mr. Ambach.

Mr. **Ambach**. Senator, let me suggest a very specific pattern which might come from your work with this Subcommittee and your colleagues, those in the House, as a follow through of the work in Charlottesville and the deliberations going on right now with national goals. You can set the vision or design of what we would like to see the nationwide and the State-by-State report card look like a decade from now. What types of information would we like to have and what assessments about what particular subject areas; what characteristics would we like to have in there. Then work back from that to see the steps necessary to get there.

Emerson Elliott made reference to the Alexander-James Report, which at its time was really a very, very bold step on what ought to happen next with NAEP. We are now at a new threshold level which is very important. If I made one concrete suggestion, it would be that instead of having a wall chart out in January, 1990 everybody who puts the energy into doing it would put that energy into trying to design a really first rate report card for 5 or 6 or 10 years from now and do all the planning that would get us there.

When I made a bold suggestion that there ought to be a six-fold increase in the budget, by no means did I mean that should be tomorrow or the next day. The system couldn't absorb it that rapidly. But one has to look toward the increments necessary to build up that system. If we were to pick the year 2000, for example, we would be able to look back from 2000 and say, we started in 1989 to develop this sensible nationwide report card. You and we could be satisfied that we were there.

I urge this kind of approach, and I think there are events coming within the next few months that could help to heighten a focus on it and make something very real of the necessary planning and undramatic steps to be taken along the way. This is almost like planning for a space shot and thinking about when it is going up and what you have to do to get there.

Senator BINGAMAN. All right. Well, I thank you both very much. You have been very patient and generous with your time. We appreciate it. We will undoubtedly be in touch with you as we try to figure out where to go from here.

Thank you, and that will complete the hearing.

[Whereupon, at 12:15 p.m., the Subcommittee adjourned, subject to the call of the Chair.]

APPENDIX

TESTIMONY BEFORE
GOVERNMENTAL AFFAIRS
SUBCOMMITTEE ON GOVERNMENT INFORMATION AND REGULATION
UNITED STATES SENATE

BY

CHRISTOPHER T. CROSS
ASSISTANT SECRETARY FOR EDUCATIONAL RESEARCH AND IMPROVEMENT
DEPARTMENT OF EDUCATION

MONDAY, OCTOBER 23, 1989

I appreciate this invitation to talk with the distinguished members of this Subcommittee about the Nation's needs with regard to education research and statistical information.

Mr. Chairman, your letter conveys concern about the availability and quality of education research and statistical information. That concern is shared by a number of individuals and groups. In the last few years, representatives of education associations, teacher-education institutions, business, colleges, state legislators, and others have called for a greater Federal role in education research and statistical information.

Last month in Charlottesville, as part of their "Jeffersonian compact," President Bush and the governors agreed that the Federal responsibility in education lies with two main tasks: to ensure educational equity for all Americans and to support education research. Specifically, they stated that the Federal role is "to provide research and development for programs that work, [to furnish] good information on the real performance of students, schools, and states, and [to provide] assistance in replicating successful state and local initiatives all across the United States."

The President and the governors clearly see research and statistics as vital to, as the President put it, "make an American education the best in the world." And they agreed that specific performance goals are indispensable to that effort.

Mr. Chairman, I'd like to request that the President's speech and the agreement between the President and the governors, which are attached to my written testimony, be inserted into the record. And I'd like to address some of the specific concerns expressed in your letter.

You asked if we are "identifying the right goals." First, let me say that no specific goals were established in Charlottesville; rather, the President and governors agreed to a process for developing "an ambitious, realistic set of performance goals that reflect the views of those with a stake in the performance of our education system."

The President and the governors did, however, point to seven areas in which the performance goals will likely be set: increasing children's readiness to begin school; becoming internationally competitive in mathematics, science, and other essential subjects; reducing the dropout rate and improving the academic achievement of all students; particularly those who stand the most to gain from it, disadvantaged students; wiping out adult illiteracy and beefing up the intellectual capital or competence of the workforce; insuring a healthy supply of well qualified teachers; employing up-to-date technology to promote learning; and establishing orderly, safe, drug-free climates for

learning. Mr. Chairman, those seven goal areas are indeed the _right_ goal areas.

While concentrating our efforts in any one of these goal areas alone would be insufficient to erase what the Secretary has called "the education deficit," taken together these are the vital fronts on which we as a Nation must advance. I believe that a system of specific, measurable, rigorous, and realistic performance goals in these seven areas--if taken to heart by the American people --stands an excellent chance of making American education the best in the world.

The Administration has encouraged goal setting at the state and local levels. Illinois, South Carolina, Connecticut, and other states have established their own goals for schools and students.

The Southern Regional Education Board (SREB) suggested goals for its member states in its report last year, _Goals for Education: Challenge 2000_. It suggested, for example, that "By the year 2000, four of every five students entering college will be ready to begin college-level work." In addition, it recommended five "indicators" to gauge progress toward that goal--indicators such as "increasing the percentage of students taking Algebra 1 by grade 10, at least to the percentage of graduates who enter postsecondary programs (with special emphasis on getting more minority students to complete algebra)" and "establishing in every institution of higher education appropriate standards for beginning college-level study and assessments to determine if students are prepared to begin this degree-credit study."

Mr. Chairman, I am not advocating these particular goals. My point here is that education performance goals are being set at levels other than the National level in some parts of the nation. But Mr. Chairman, imagine the impact if every state would emulate what happened in Charlottesville last month. Wouldn't it be nice if every state would call together the stakeholders in its education system for the purpose of setting rigorous education performance goals for their state, within the larger national framework of goals? Wouldn't it be nice if every community would do the same, within the context of its state's goals? Years of research on school effectiveness and related education issues make this clear: schools and students who achieve high levels generally know what's expected of them.

Whatever specific goals are agreed to, we can be sure of several things. Reaching them will take a sustained effort. We can turn this Nation's education performance around, but not if we expect to do it within a year or two. We must commit to the long haul.

And it will take a concerted, all-out effort. I want to emphasize the word "effort," Mr. Chairman, because a lack of it in our schools and homes is holding us back. International assessments reveal that our students generally believe they are quite good in science and math when, in fact, they're less accomplished in these critical subjects than are youngsters in other countries--youngsters with whom they'll have to compete in the future.

Mr. Chairman, it will take more parents becoming full partners in the education of their children; offering families a choice among schools can encourage parent interest and involvement in their children's schooling and learning from the outset. And it will require that we teach deep understanding of fundamental knowledge, helping youngsters understand not only when the Civil War occurred, for instance, but why.

It will require giving schools the leeway and freedom to figure out how to teach such things to all their students--and holding them accountable for the results. If schools are to do this, and to do it better each year, they must receive accurate, timely, and useful feedback about their students' progress, as well as top-notch information from research, state-of-the art practice, and statistics.

This brings me to two of the questions in your letter, Mr. Chairman. You asked about the "availability and quality of information needed for developing and assessing national education goals" and about the "information systems [that] will be needed to set national standards and to assess progress."

These questions pertain to the statistics side of OERI, the National Center for Education Statistics (NCES). In recent years NCES has strengthened the nation's supply of accurate, reliable, timely data. Some three years ago, NCES initiated efforts to improve its operations and to close gaps in its data. Today, NCES data are cited regularly in newspapers and by decision-makers across the country.

But we cannot be satisfied; there is still room and need for improvement in NCES--particularly in light of what we expect to be an increased demand for data relative to the upcoming seven performance goal areas. Currently, NCES is largely responsible for the oldest and one of the most central roles for the Federal government in education, that of reporting on the condition and progress of education across the states. Although nothing has been formally agreed to, it seems likely and quite appropriate that NCES may be asked to shoulder a sizeable portion of the responsibility for gauging the nation's progress in these goal areas.

We have skeletal frameworks for monitoring progress in several areas. For instance, last month NCES released its first annual report on the nation's dropout rate, Dropout Rates in the United States: 1988. The report establishes three measures of "dropouts" and lays the groundwork for construction of a comprehensive system to monitor all three dimensions of the phenomenon over time.

A second example pertains to international comparisons of learning and schools. Under the auspices of the Organization for Economic Cooperation and Development (OECD), NCES is involved in an international effort to develop "indicators" that will permit international comparisons of various features of schools and students, including student outcomes and student attitudes. Also, NCES is preparing for two major international studies. One will compare the reading performance of fourth graders and ninth graders in 40 countries. The other will compare the mathematics, science, and geography achievement of 9-year-olds and 13-year-olds in 20 nations, including the Soviet Union and China. We hope to see the results of both international studies by the end of 1992.

The third and final example has to do with measuring the performance of our students within the U.S. Again, we have the beginnings of a workable system. Last year, Congress mandated that a panel be established for the sole purpose of developing valid, accurate indicators by which the Nation's education progress could be measured. That panel of distinguished individuals will meet for the first time in November 1989.

Of course, the outlines of a system for gauging student learning across the U.S. are available in the National Assessment of Educational Progress (NAEP). As the only nationally representative sample of what our stuents know and can do at certain ages and grade levels, NAEP is likely to be one of the important "building blocks" for creating a system to gauge the Nation's progress toward our goals for student learning.

As you know, we are in the process of expanding and strengthening NAEP. The 1990 NAEP will allow us to compare U.S. 8th graders' performance in mathematics state-by-state; the 1992 NAEP will permit us to compare U.S. 4th graders' reading performance state-by-state. I believe these new data from the expanded NAEP will afford considerable insight into the state of learning across the U.S.

But there is a problem with relying on NAEP as the sole mechanism for measuring performance against goals--not all states are participating in the state-by-state comparisons; participation is, by law, optional.

Mr. Chairman, your question about whether we "have the information and research needed to develop successful strategies" to advance as a Nation in the seven goal areas brings us to the R&D side of OERI. Recent years have seen some improvements on this side of the agency--in the Office of Research, Programs for the Improvement of Practice, and Information Services. But I envision more.

One of my goals for these programs--indeed, for all of OERI--is to do a better job at putting research into practice. This means more than simply improving dissemination, though we must do that, too. It means that our work in toto, from the issues we address to the manner of presenting research results and information, must be driven by the needs of the people in the field. We are going to make education information easier for teachers, principals, parents, policymakers, and other audiences to use, for these are the people who must use such information if it is to make a difference in student learning.

Another goal of mine is to increase communication and collaboration within OERI and among the various components OERI supports and monitors. As you may know, OERI consists of six program areas. I talked about the activities of one, NCES, a moment ago. Let me mention the others and just a small portion of what they do. The Office of Research, among other things, oversees the work of some 20-plus research centers; Programs for the Improvement of Practice administers 20 regional laboratories;

Information Services works with 16 information clearinghouses; Library Programs administers 9 programs that improve public and academic library services across the country; the Fund for the Improvement and Reform of Schools and Teaching administers grants to support innovative reforms in pre-school through 12th grade education and teaching.

As the Subcommittee knows, OERI's components are numerous, varied, and scattered across the country. One of my goals is to encourage and enable these various components to operate more efficiently, more effectively, and more productively as a system, as a team. Teamwork will be a priority across and throughout the agency. And I intend for our "team" to expand beyond OERI to the Department of Education, and beyond the Department to include other Federal agencies and non-Federal organizations, both inside and outside the Beltway. That has to happen if education information is to illuminate and guide us to the level of school and student performance Americans want.

Mr. Chairman, I read your letter as an indication that you would be interested in what the Department and OERI have done, are doing, and plan to do to advance the Nation toward the seven goal areas set by the President and the governors. I would like to request that the hearing record be held open for me to submit a more detailed description of what the Department and OERI are doing in each of the seven goal areas.

I would like to thank you and the Subcommittee for inviting me here today. I'd be happy to answer questions at this time.

Testimony to the U.S. Senate Governmental Affairs Subcommittee on Government Information and Regulation

October 23, 1989

Patricia Albjerg Graham

Charles Warren Professor of the History of Education and
Dean, Graduate School of Education, Harvard University

I am pleased to have the opportunity to testify here today on the subject of the adequacy of the government's information about education. In short, let me state simply that at the present time, we do not know as much as we need to know to achieve the improvement in education that we all desire. The fundamental explanation is in the decline in support for educational research. The federal government is the prime funder of educational research and during the past decade the funds available for research in education have declined dramatically. The General Accounting Office reports a decline of nearly 80% in real dollars since the creation of the National Institute of Education.

When the original discussion about the creation of the Department of Education occurred in 1867, one of the leading proponents of the Department, a Congressman from Minnesota, Ignatius Donnelly, called for its establishment arguing that it would "illuminate the dark places of ignorance." During the ensuing 122 years the Department has indeed provided a beacon, but its wattage has diminished relative to the area that requires illumination.

Six different issues provide examples of topics about which more information is required than is currently available and for which the government needs better information if its policies are to be improved and if the education of American young people is to improve, as it must.

Collaborating for Children and Schools:

The Role of Government

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October 20, 1989

We Americans are unhappy about our country today. A sense of unease certainly is not unique in our history, but the focus of the concern is new. Today we worry that too many Americans are either mired in or slipping into poverty; we worry that too many of our American industries are lagging in rates of productivity in comparison with those of other nations; we worry that too many Americans are ignoring or eschewing their community and civic obligations, as expressed by low voter turnouts, limited political participation, expressed disenchantment with public figures; we worry that too many Americans exhibit moral passivity, seeking personal fulfillment through drugs, alcohol, and sex, rather than through building sustaining relations with friends and families, with their work, with their country, and with their spiritual commitments. In short, four problems beginning with "p" plague us: poverty, productivity, public participation, personal passivity. About all these matters we worry.

Meanwhile, our national actions encompass expensive initiatives based upon preserving our military power in the face of hostile nations, presumably the USSR and China, both of which are presently deep in their own agonies of domestic reform. Our national priorities for action and for spending money are rooted in the realities of the mid-1950's, a time when the United States was unquestionably the leading world power both militarily and industrially and a time when we had confidence in our national moral probity. Today the perceived threat of Communist domination of Europe or even of Asia seems less pressing as American business hustles to find markets in China and the Soviet Union, and as we observe with fascination the evolution of the new politics of Eastern Europe. But our federal attention and expenditures remain concentrated on the geopolitical realities of 35 years ago while domestically our problems are acute. The threat to our nation and to our way of life is not from across the seas, as our federal leaders would have us believe, but it is from within.

Traditionally when we have faced national crises we have sought educational remedies, preferring to deal with the young rather than with the grown ups. One hundred and fifty years ago Horace Mann promised Massachusetts higher standards of morality and productivity in the Commonwealth if it created a public education system. In 1862 Justin S. Morrill promised the Congress that farm productivity and industrial growth would increase if the federal government would provide land grants to states to support instruction in agriculture and the mechanic arts in their colleges. During World War II government planners, fresh from the Depression experience of high rates of unemployment, envisioned a means of eliminating the anticipated glut of workers on the American economy following demobilization of the troops after the war. Their solution was to send many of them to college under the legislation of the G.I. Bill, thus slowing their reentry into the work force as well as providing at public expense additional education that could be used to benefit both the individuals and the society. In 1954 de jure segregation by race was eliminated by the U.S. Supreme Court, and the institutions given the leading responsibility to implement the decision were the public schools.

Educators, thus, are accustomed to being handed society's larger dilemmas. Over the years educators have become extraordinarily adept at sensing what the society really believed about an issue and adapting the educational remedy to that societal concern. For example, the social pressure for much of this century has been to reduce the school dropout rate, particularly among high school students. The schools have been extremely effective in reducing that rate and increasing the number of students with high school diplomas or the equivalent GED (General Equivalency Degree) Less than ten percent of American young people graduated from high school in the early years of this century, and now more than 80 percent have either high school diplomas or a GED.

The issue, however, was reducing dropouts and raising high school graduation rates, not assuring high rates of academic achievement. Similarly in the press for school desegregation, the effort was to eliminate de jure segregation but not to increase academic achievement of all children, both black and white. When there has been major societal pressure for increased academic achievement at the pre-collegiate level, it has been for a small fraction of the youth, such as that precipitated by the national clamor following the successful Soviet launch of Sputnik in the fall of 1957. The resulting federal legislation, the National Defense Education Act, accurately captured the political motivation for providing better scientific training for an elite group of students who might go on to become scientists who could be more successful technically than the Soviets. Similar efforts by the National Science Foundation to improve the school mathematics and science curriculum focussed upon the college-bound students, not the majority who were not intending to go to college. In short, the educators have responded to social pressures accurately, providing a custody service for the many while providing a strong academic program for the few. In the past we have believed that this arrangement served us reasonably well. Today we do not think so.

What is novel about our present concern is that our focus has shifted from the leaders to the workers. We are concerned about the skills of the many, not simply the skills of the few. Even though we could, perhaps, attribute a lack of vital leadership in the society as a principal explanation of our current worries, the chorus of public debate is upon the failings of the many, not of the few. Hence, school people, with their keen ear for the societal melody, are realizing that they are again expected to tackle a major domestic difficulty. They are appropriately concerned about the strength of their institutions and of themselves to take on what is essentially not school reform, but social reform.

It is utterly ludicrous for society to expect schools by themselves to solve these fundamental social problems. It is also ridiculous to expect improved education of the young, a much broader notion than schooling itself, to resolve them either. Nonetheless, education, in general, and schools, in particular, can with substantial additional supports and significant modifications in their present arrangements make important and substantive contributions to the issues of poverty, productivity, public participation, and personal passivity. The problems, of course, feed on each other, and the educational focus must be to nurture the wit and the character of the young so that they will have the skills, attitudes, and values that enable them to lead fulfilling and meaningful adult lives. Too many adults do not do that today, and that is bad for the country.

Mounting evidence reveals that our children are even more likely than our adults to have difficulty achieving these skills, attitudes, and values. Therefore, the assistance of the comprehensive institution serving children, the school, is sought. Poverty is significantly greater among children than adults; productivity increases depend to some degree upon better academic skills and work habits among American workers; public participation is a value that can be fostered by education and schooling; personal passivity can be overcome by engaging educational activities.

Schooling is a vital but limited aspect of education. Among the many agencies that educate--families, media, communities, religious, eleemosynary, and social institutions--schooling is undoubtedly much less effective than the cumulative effect of the others. Schooling's influence is considerably weakened, as well, when its message to study hard and avoid moral temptations is contradicted by what the youngster sees in the community or on the tv, or even at home. Schools, however, are the only one of these agencies whose primary business is supposed to be education, as opposed to nurturant love or entertainment. Further, schools are more responsive both to public policy and pressure than are the others. In the United States we have been reluctant to mandate and enforce child-rearing regulations, and we have for different reasons been unwilling to regulate television transmissions meaningfully with a view to their influence upon the young or their educational consequences. Neither have we been very effective in promoting community educational activities nor in prohibiting drug or inappropriate alcohol use. We have, however, been quite successful in building a universal school system, and hence we look to it to resolve these myriad difficulties.

The story of American schools is a story of success--limited success, but success just the same. Despite the well known difficulties with student achievement, drop out rates, teachers' working conditions and status, and bureaucratic organization, schools in the United States have done an extraordinarily effective job in educating a diverse and heterogeneous population. American children read better today than they ever have in the past. Similarly, the overall trend lines for scores on the National Assessment of Educational Progress, the closest measure that we have to a national test of academic achievement, show improvement. Traditionally American schools have done quite well with healthy, well-motivated children of stable families. They have not done well--nor, for that matter, have any school systems anywhere--with unhealthy, unmotivated children without stable families. Today we have proportionally many more of the latter children in our schools and proportionally fewer of the former.

In addition, we now have significantly higher expectations for what all children need to learn than we did formerly. When I was born only about half of American teenagers graduated from high school, and that fraction seemed satisfactory for the democracy's and the economy's needs. Now not only do we believe that everyone ought to graduate from high school, but we believe that they need to have developed the ability to keep learning throughout adulthood. The schools, thus, have been expected to take less school-oriented students and teach them more. Further, they have been called upon to do this at a time when many of the able women and minorities who formerly staffed the schools have left to pursue other more rewarding vocations. The combination is not a happy one. Despite these difficulties the schools have persevered, doing well, but not well enough. As they are now being asked to shoulder the major burden of reform, they need assistance.

Schools are remarkably durable and resilient institutions; they are also much more comprehensive in the United States than any other institutions that we have; they are also publicly funded and hence subject to governmental regulation with the intention of achieving a socially-desired goal. Eighty-five percent of American children attend public schools, and even the non-public schools are subject to some governmental regulation. Therefore, schools are one appropriate focus for our efforts to improve our country.

If the schools are to address successfully the problems of poverty, productivity, participation, and passivity in America, they will need a great deal of assistance. Three groups in this country have special expertise, obligation, and self interest in providing that assistance: government, higher education, and business. The focus here is upon the role of the government.

Government

The rhetoric of American education is filled with paeans to the virtues of local control of schools in the United States. There are many justifiable reasons why a country as large and diverse as ours is benefits from a decentralization of its school system. Nonetheless, if we look at the problems that beset the country as a whole, and if we expect some resolution of them from the schools, then significant federal government action is required as well. The absence of educational leadership from Washington, DC, especially during the eighties, has intensified many of the problems that the schools face. There is plenty of room for state and local initiative in educational reform, and there has been considerable evidence of this during the recent period of federal inertia. The problems are inherently national in scope, and hence federal actions are in order.

For much of our history in the United States we have believed that our strength resulted in important ways from our abundant natural resources, which we tended to define as our mineral resources, our forests, our fine agricultural lands and our temperate climate. But we have learned that we cannot live on iron ore and plentiful corn alone.

Rather, stimulated in part by international competition, we have learned that to increase productivity we need to improve the ways people cooperate, manage, and organize themselves, as well as the ways they use technology, learn new jobs, and interact with government.[1] These are natural resources of a different sort, the knowledge and skills of our people. Certainly the federal government has believed that it had an important role in developing the other kinds of natural resources. So must it now begin in serious fashion to develop human resources.

The federal government's support for education lies in three principal domains: assuring children's healthy development; assisting educational endeavors outside the schools; aiding school reform. The president's bully pulpit is a valuable and useful tool to further each of these efforts, but just as we have believed that it was important to talk about the need for a strong defense establishment, we have also believed that it was essential to appropriate funds to be sure that something happened. The same is true in education.

1. _Assuring children's healthy development_--Many children grow up just fine without any noticeable help from the government, but many of those without apparent federal aid are benefitting indirectly from homes financed with Veteran's Administration mortgages, from suburbs whose roads were developed with federal funds, from parents who were educated either at public universities or institutions with large federal research awards. Those

without the noticeable government assistance often do well in school because not only their families and communities want and expect them to do so but also because they and their families and communities have plenty of examples of others similarly situated who have done well. These examples provide an important ingredient of motivation to a child who comes to believe, as do the people around the child, that the child can and will do well.

Not all children are so fortunate. Over half the children in America today will spend some part of their childhood in a single parent family, thus enhancing the likelihood that they will join the over 20% of American children in poverty. Even the single child born into a two parent family in which one adult works full time at the minimum wage will live at 11% below the poverty line.[2] The numbers of children in poverty declined during the 1960's, a consequence both of the economic prosperity and of the federal legislation resulting from the War on Poverty. Some increase in the numbers in poverty occurred during the seventies, but the major increases (more than one million new poor children annually) came in the early 1980's.[3] A recent Fordham University study has revealed that 1987 "was the worst year for children in two decades."[4]

Poor children are less likely to be healthy than their more affluent compatriots, and their development is more likely to be rocky, particularly in terms of those mysterious but essential qualities of self-esteem and motivation. Our social welfare legislation today emphasizes treating the problem after it has occurred, rather than preventing it. Prevention is vastly cheaper and easier than treatment after infection, but up to now our national social and political will have not been strong enough to generate adequate support for such prevention. We know we should engage in prevention, but we have not mobilized to do so on a broad scale. For example, $1 spent on children's immunization and metabolic screening saves $14 later but over 20% of children are not fully immunized. That figure jumps to over 50% for black children.[5] Similarly, the WIC program (Special Supplemental Food Program for Women, Infants, and Children), which provides nutritional information and food supplements for low-income pregnant women and for "nutritionally at risk" children up to age five, addresses a vital need, but it is only funded to serve half of the eligible recipients.

The Perry Preschool Project, which involved poor, black three and four year olds, provides the clearest example yet of the beneficial effects of preventive action for social development. The children in the project were matched with similar children not in the project. Based on follow up studies of the two groups' adolescent and young adult lives, estimated aggregate savings of $28,000 occurred for each $5,000 spent on a child in the project ($3,000 reduced costs associated with delinquency and crime; $5,000 savings in special education and remedial school programs; $16,000 savings in public assistance; $5,000 additional revenue in taxes collected because of better employment and earnings).[6] Self-esteem and motivation come much more easily to children who see genuine opportunities for them in American society than they do to children living in circumstances that seem hopeless. The Perry project is the best studied of the early intervention programs, but many well run Head Start programs offer similar results with their children. Yet today barely 20% of the children eligible for Head Start programs are enrolled in them because the federal government has not appropriated funds for the remaining programs. Again, this is an example of the government knowing what it should do, but not finding the political will to do it.

Thus, the federal government, working in conjunction with state and even local government, as well as with private voluntary activities, needs to revamp fundamentally its several programs aimed to insure the healthy development of young people. A recent Ford Foundation study, The Common Good, recommends full funding of both WIC and Head Start and changes in Medicaid to provide health insurance for needy pregnant women and children not presently covered and estimates that the additional cost would be $1.7 billion for WIC, $2.0 billion for Head Start, and $1.0 billion for Medicaid.[7]

Children who are not healthy will have special difficulties in school, and while it is the obligation of the public schools to do as well as they can with every child, healthy or not, assured and motivated or not, the schools are much more likely to be effective with children who come to them healthy, assured, and motivated. We know how to increase the proportion who come to school thus prepared, but we have not translated that knowledge into federally funded, well managed programs that serve all who are eligible for them. Currently Congress is considering an expanded child care bill, but bipartisan support for the bill is lacking. In the absence of such governmental actions, the schools are both hobbled in the efforts to educate all children well and subtly assured by the government that some children need not be bothered about.

2. Assisting educational endeavors outside the schools--While the federal government's responsibility for the operation of educational institutions, such as schools and colleges, is subsidiary to that of the states and local communities, it has the primary responsibility in the domain of educational research and statistics. The impetus for the creation of the

original Department of Education in 1867 was the need for fuller understanding of education throughout the United States, or as its supporter Congressman Ignatius Donnelly expressed it, to "illuminate the dark places of ignorance."[8] Similarly the creation of the National Institute of Education in 1972 was intended by two of its principal proponents, John Brademas, then a Congressman from Indiana, and Daniel Patrick Moynihan, then a professor at Harvard University on leave to the federal government, to be a parallel and equivalent agency to the United States Office of Education within the Department of Health, Education and Welfare. They succeeded structurally, but not fiscally. NIE never achieved the resources its supporters sought, and consequently when it was abolished by the Reagan administration in 1987, the achievements of its fifteen year history were modest. Only in the early years of the Carter administration did the NIE receive increases in its appropriation, but with the creation of the Department of Education in 1980, both the appropriations and the structural equivalence of research with educational operations declined. A recent General Accounting Office study reveals that the federal educational research budget has been cut by nearly 80% in real dollars since the creation of NIE.[9] I know of no other federal agency that has suffered those kinds of budget cuts, particularly when that federal agency has the lead responsibility in the nation for its kind of work.

The political constituency for educational research has always been elusive, depending heavily upon educational researchers themselves, who have often been their own worst enemy in arguing their case with the Congress. Their proclivity to be verbose, to qualify all findings, and to favor analysis of a problem over resolution of it has not won the hearts or minds of the members of Congress.

Educational researchers, unlike medical researchers, cannot promise any single fix remedy to a life-threatening disease. There is no educational equivalent to a blocked coronary artery for which practitioners can utilize a research finding to provide an immediate restorative solution. The incentive for educators to rely upon research in order to be "successful" with their clients has always been more ambiguous than for physicians, who have believed that research contributed in significant ways to their "success." Educators' clients do not die of educators' failures, but physicians' patients do. Educational researchers, then, have had difficulty finding practitioners who believed research was important either to the practitioner's or to the student's success. Congress expects testimonials from satisfied clients for its programs, and its patience for recognizing long term benefits in these days of immediate evaluation and accountability is thin. Nonetheless, it is worth noting that no important benefits in agricultural or engineering research were realized until more than forty years after the original land grant legislation creating the A and M universities was passed. The constituency of local congressmen who supported these institutions wanted a tangible outcome: federally supported higher education for citizens in their states. Today the land grant universities are research leaders in both areas, but it is also 137 years since the federal legislation creating their agriculture and engineering faculties.

The fact that educational researchers are poor public relations agents and that their results are not instantaneous does not mean, however, that the federal government should withdraw support for educational research. In education as in any other field progress and improvement come irregularly but persistently from the findings of research. To reduce or eliminate research in a field is extraordinarily short-sighted if one wishes to see gains in the field. Certainly the most successful American businesses understand this fundamental premise. David Kearns, the chairman of Xerox, recently observed, "No single feature of the education system is more shocking to business leaders than low levels of education research spending. We know more about pork bellies and soybean futures in this country than we do about our schools."[10] The federal government also recognizes the value of research in other domains to which it has given higher priority than education. For example, the Department of Defense's research budget alone is more than $3 billion; within the Department of Health and Human Services just the National Institute of Child Health and Human Development's budget is nearly $400 million; the research budget of the Department of Education is $47 million. That is a shockingly low figure for a nation that says that it wants to improve the education of its children and for a federal department that brought us A Nation at Risk..

In addition to educational research, there are a number of other federal programs that contribute to children's education. For example, public libraries in local communities are vastly under-funded, which limit their ability to serve children effectively, and the federal government currently provides only $137 million in support, most of it to school libraries. Museums, both specialized ones such as science or children's museums, or broader art ones, offer many opportunities for children, but relatively few benefit from them. The entire federal appropriation for the Institute for Museum Services is presently $22 million. Similarly, the National Endowment for the Humanities, the National Endowment for the Arts, and the National

Science Foundation all have modest programs dealing with children's learning of the humanities, arts, and sciences. The total for all those programs is less than $200 million, with the great bulk devoted to the Science Education Directorate, which encompasses many projects besides children's science. The elementary and secondary education program for the arts, for instance, is only $5.6 million while for all the humanities it is just $16.2 million. The focus of all these agencies is upon adults, whom the federal government has believed were more important recipients of their attention than children. That assumption must be challenged.

A third and vital way in which the federal government can assist educational activities outside the schools is through the regulatory process. Unlike the previous examples and many of the subsequent ones, this does not cost money. It does require political clout, a commodity often in shorter supply for worthy causes than money. An example of such shortage was President Reagan's refusal to sign the Children's Television Act of 1988 despite bi-partisan support in Congress, including unanimous passage by the Senate. That legislation would have required television stations to consider the welfare and needs of children in their programming, something that recent FCC rulings have eliminated. Since children, particularly ones with low family incomes, spend enormous amounts of time in front of tv sets, the impact of changes in programming could benefit them immensely. Currently both the House and Senate are considering tv regulation bills, now under the leadership of Howard Metzenbaum and Ed Markey and one with Timothy Wirth.

Another regulatory change would be incentives from the federal government to stimulate integration of children's services of the many federal, state, and local agencies that now provide them. The health services are separate from the welfare ones, which remain isolated from the educational ones, which are frequently distant from the food supports. Day care and employment services are distinct from each other and from the others, yet a poor mother struggling to get on her feet economically needs all these activities for herself and her children if she is going to overcome the difficulties she faces. Current regulatory Balkanization makes it extremely difficult for her either to understand or to benefit from the programs for which she is eligible. Undoubtedly there is no magic solution to the regulatory maze, but much more creative experimentation should be tried. One very positive long term development on this front is the shift in emphasis within the General Accounting Office (GAO) from traditional fiscal accounting approaches to broader program evaluations. Many recipients of federal funds have tailored their programs to meet auditing requirements so that they would be sure that they would not be subject to allegations of fraud. Such tailoring frequently benefitted the people who ran the programs more than they did the people who were supposed to be receiving the services of the program. If we really want to assist in the education of the young, then our programs should be designed to do that, rather than simply make the audit trail clear for the administrator of the program.

3. Aiding school reform

a. Regulatory Relief--Nowhere is the regulatory thicket more dense than in the world of public schools, which now receive less than 8% of their funding from the federal government, but most school people would contend that they spend considerably more than 8% of their administrative time on conforming to the regulations that come with the money. Hence, the dictum of simplified and integrated regulation is particularly appropriate for the public schools. Their future success undoubtedly rests on devising new ways in which the academic learning expected in the school can be incorporated into a broader function being served by the school building. Inevitably it must provide a variety of non-academic services to the students and their families. In one Boston high school, for example, I am sure that the single greatest boost to reading scores would be the installation of a day care facility for the children of the mothers now only intermittently enrolled. Teenage mothers are concerned about the care of their babies, and most exhibit greater attention to their children's needs, which are certainly more immediate, than they do to their own, which can be deferred. The educational ones are the most likely to be deferred, particularly when the young mother has no safe place to leave her baby. Thus, she stays home with it, and both she and her baby will ultimately suffer if she does not receive the education that will allow her to realize her full gifts and to be a productive member of society. For most burdened school people the regulatory hassle is simply too great to be overcome even though they recognize that rationality would dictate that their building serve many purposes other than instruction in academic subjects. The federal regulations are not the only ones, of course, with which the school people must deal, but if federal leadership means anything, then the federal government could provide the initial effort in attempting to simplify the bureaucratic hurdles in providing integrated services to children through the school building. These efforts would not be costly and ultimately might even save some public funds.

Other federal programs to improve the schools will cost money, but I am not suggesting that we overthrow our traditional mode of the primary financing of our schools, which is through state and local governments. Nonetheless, the problems we face of poverty, productivity, participation, and passivity are not ones that are located solely in Michigan, Missouri, or Montana. They are national ones that affect all of us in the United States, and, therefore, there is a federal imperative to address the issues through public schools. Two kinds of federal help to the schools are essential: expansion of Chapter One so that all eligible children can be served and development of model programs to serve particular national needs.

b. Chapter One--Chapter One is an evolution from Title One of the Elementary and Secondary Education Act, originally passed by the Congress in 1965 and signed by President Lyndon Johnson, who like the present incumbent of the White House and fellow Texan, aspired to be an education president and actually was one. The original Title One provided funds to schools with high concentrations of children of poverty because the assumption was that such children needed special school help in order to do well in their academic subjects, an assumption that has not been challenged.

The program was authorized for all twelve school grades but because there never were sufficient funds appropriated to fund it fully, its efforts were concentrated on the early grades where prevention of learning problems might occur and where the learning expected was itself better understood than at the higher grades. Like most early evaluations of complex social programs, the initial studies of Title One found them at best mixed in their results, but by 1977 the National Institute of Education evaluation, commissioned by the Congress, revealed that in well-managed programs children made real gains in reading and arithmetic. Despite these and other positive findings, Congress has not increased substantially the appropriations for the program, and less than half of the eligible children are served by it. In particular, the program has remained concentrated in the elementary years, and it has rarely been extended to the high school years, the point in the educational process where American children most clearly perform less well than children in many other countries. Chapter One is currently funded at $1.5 billion, and estimates are that another $1.5 billion would reach most of the other eligible children.[11]

c. Model Programs--Just as local communities and states inaugurate new programs to meet particular needs, so should the federal government undertake efforts to address large national educational issues. Both Senator Edward M. Kennedy and Senator Claiborne Pell have recently introduced legislation that encompass some of these elements. Let me suggest four specific educational issues that could be addressed by model federal programs:

(1) Issue: by the end of the century estimates are that between 30 and 40 percent of school children will be minority yet the current percentage of minority teachers is less than ten percent and dropping;

Model program: Scholarships in one-year teacher education programs for minorities who will then have an obligation to enter pubic school teaching for periods of no less than 3 years; 500 such scholarships at $15,000 per student would cost $7,500,000 annually.

(2) Issue: by the end of the century estimates are that approximately half of the present public school teachers will retire or quit, thus creating an acute teacher shortage;

Model program: Scholarships in one-year teacher education programs for persons who will have an obligation to enter public school teaching for periods of no less than 3 years; 1,000 per year at $15,000 per student, $15,000,000 annually.

(3) Issue: Most experienced teachers and administrators have no funded opportunities for additional study once they have completed their certification; given their salaries few can pay for it themselves, yet those in difficult or poor schools have particular need for such professional revitalization provided by full time study;

Model program: Sabbaticals for graduate study in their fields for teachers and administrators in schools either with predominantly poor student bodies or in schools below the state average per pupil expenditure; 500 per year at $30,000 per year, $15,000,000 annually;

(4) Issue: Many large school systems are currently considering implementing "school site management" yet few have any experience with giving significant managerial responsibility to mid-level administrators that such changes would require;

Model program: Sabbaticals and summer fellowships for such prospective schools site managers: 250 sabbaticals per year at $30,000 per year, $7,500,000 annually and 1,000 summer fellowships per year at $5,000 per summer, $5,000,000.

These remedies would cost $50 million dollars annually. Current estimates are that one single B-2 stealth bomber costs well over $500 million so for less than one-tenth the cost of a B-2 stealth bomber (of which the Air force wants 132) our federal government could make genuine progress on the domestic front of improving the schooling of our children instead of augmenting our military capacities in an era when our defense expenditures are excessive and our domestic investment inadequate.

Conclusion--The argument, you will recall, is that we Americans are worried and dissatisfied about four problems that beset us: poverty, low productivity and civic participation, and personal passivity. Our current national priorities, however, are not focussed on solving them, but rather on an international agenda whose contours were set forty years ago. America's most pressing problems today are not external threats from the Soviet Union or communist eastern Europe. Rather, the issues of today are internal to the United States. These are the issues to which government, higher education, and business need to give their attention in their respective ways. Yet we have seen no strong governmental initiatives in recent years to address these issues. The efforts of higher education and business on these matters are still tentative and superficial.

In the face of these broad adult concerns, many look to the children as the hope of the nation. Yet when one turns to the circumstances of the young, one's concern rises for with the children there is greater poverty than among adults, and in the face of that widespread poverty, their chances for a healthy, productive future are limited. Then, one looks to the schools to bring about reform with the younger generation. School reform can be a useful adjunct to the broader social reform that is required. Certainly the schools by themselves cannot provide a new generation who will avoid poverty, who will be productive, who will participate as citizens, and who will abjure personal passivity. But the schools can do better by children than they do now, and with help from the government, and with assistance from higher education and from business, some genuine improvements can come. They would be welcome both for our generation and for the next.

NOTES

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3. Ibid., pp. 47-48.

4. As quoted in Daniel Goleman, "New Measure Finds Growing Hardship for Youth," New York Times, October 19, 1989, p. B19.

5. Ford Foundation Project on Social Welfare and the American Future, The Common Good: Social Welfare and the American Future, Policy Recommendations of the Executive Panel (New York: Ford Foundation, 1989), p. 14.

6. Ibid., pp. 17-18.

7. Ibid., p. 28.

8. As quoted in Donald R. Warren, To Enforce Education: A History of the Founding Years of the United States Office of Education (Detroit: Wayne State University Press, 1974), p. 82.

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11. Ford Foundation Project on Social Welfare and the American Future, op cit, p. 29.

The State of Education Information

Prepared for delivery to the Subcommittee on Government Information and Regulation, Senate Committee on Governmental Affairs, by Chester E. Finn, Jr., Professor of Education & Public Policy, Vanderbilt University and Director of the Educational Excellence Network

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Overview

I am pleased to share my views on the availability and quality of information needed for developing and assessing national educational goals and standards. This is a timely and uncommonly important discussion. There is nothing more vital for the improvement of American education than agreement on substantial outcome goals and standards for it. I see this as the crucial missing piece in our reform efforts, the step we should have taken a decade ago, the process without which we find ourselves tinkering endlessly with the production process in the absence of any clear sense of just what our desired product would look like.

The nation's governors and President Bush are in general agreement that the United States needs education goals and standards. They have resolved to produce these. They have also agreed in principle to the production of annual "report cards" that will monitor, track and apprise the public of our progress toward those goals and our performance in relation to those standards.

They are not alone. The chief state school officers have been moving in the same direction for several years. So have a number of influential individuals and organizations. It has been a disorderly movement, yet its overall direction is visible.

The "report card" idea is inseparable from the goal-setting idea. It little avails us to set objectives if we have no means of knowing whether, when and how well we are achieving them, whether we are progressing or regressing in relation to them, etc. Goal-setting is a hollow exercise without an information feedback system linked to it.

So far, so good. But immediately there arises a large problem, associated with the federal structure of American education. While we may set national goals, the policy-making and operational units with the authority, the responsibility and the means to move us toward those goals are the states and their subdivisions. [I am largely confining myself here to public elementary and secondary education. Some of these statements would be phrased differently if we were examining higher education, private education, pre-school education, etc., though the fundamental policy primacy of the states would still hold true.]

This means that the states and their subdivisions must also be the primary focus of the information feedback system. Only if each state can gauge its own progress in relation to education goals and objectives can it take the actions that, coupled with analogous actions in 49 other states, may actually move the nation to more satisfactory results than we are now achieving.

Because it is the nation we want to move, not just the individual states, it is important that the information feedback system, though state-oriented, also furnish its information in ways that can be compared, aggregated and analyzed across states and for the country as a whole. Thus we need a very substantial amount of information that is state-specific but that is also compatible and comparable for all the states.

There is wide agreement in principle that the federal government--with the advice, consent and active cooperation of the states--should bear the primary responsibility for supplying such information. This, after all, has been its statutory obligation since Civil War days.

Yet state-by-state data are relatively difficult, cumbersome and costly to gather. The requirement that data also be comparable across states serves to compound the problems. The effort is full of technical complexities, such as states with divergent rules and procedures for their education systems, states that define crucial education concepts and elements in different ways, and states that may be sluggish or inept in furnishing the necessary information.

This, however, is not the largest problem facing us. Here is an even more vexing one: the kinds of information we most need if we are tracking progress toward education goals are, obviously, information about education results or outcomes, rather than information about intentions, efforts, inputs and processes. We want, above all, to know how much and how well our students are learning. In the argot of the profession, this means we need a great deal of information about "cognitive learning outcomes". Those are not the only kinds of "outcomes information" we want--school dropouts and completions, student drug abuse rates, and job placement rates are examples of others--but they are among the most important.

Yet this is where the United States has always been weakest in its education information systems. We have done a tolerable--and, in recent years, fast-improving--job of gathering data on education inputs and resources, on processes, practices and personnel. But we know woefully little about the things that matter most--and where we seem as a nation to have the gravest cause for worry. This is ironic, even sad, but it is the fact. For a variety of historical, political, technical and organizational reasons, cognitive learning outcomes--arguably the most vital set of gauges by which to measure education--are the domain where we have done the least satisfactory job over the decades. When we merge the need for information about learning outcomes with the need for systematic, comparable, state-by-state data, we touch the Achilles heel of American education. And when we go in search of comparative international data, as well, we discover that we have two such heels.

This is scarcely an original insight. Governors, chief state school officers, state legislators, federal education officials, members of the Congress and a number of professional leaders in the field have been aware of this problem for years and, during the 1980's, began to take steps to solve it.

Those steps, I believe, would likely have proven adequate over time if we were very patient, if we did not have a qualitative disaster on our hands, and if nothing else were changing in the world of education. I do not, however, believe that they are sufficient to bear the information burden associated with our rapid movement toward national education goals and standards. [Let me stipulate here that while I presently chair the National Assessment Governing Board, my views on these matters do not necessarily reflect the opinions of my 22 colleagues on the Board and they must not be interpreted as the conclusions or recommendations of the Governing Board as a body. The Board is considering these issues but the timetable for this hearing did not permit the preparation of any consolidated Board "position" nor did it afford time for the review of my statement by other Board members. I will, of course, be sharing it with them but would also urge the Subcommittee to solicit the counsel of every member of the National Assessment Governing Board.]

The National Assessment of Educational Progress

For twenty years, the National Assessment of Educational Progress (NAEP), also known as "The Nation's Report Card", has been our most reliable source of data about cognitive outcomes at the elementary-secondary level for the nation as a whole. Every two years, it tests a statistically valid sample of students at ages 9, 13 and 17 (and, of late, grades 4, 8 and 12) in the core academic subjects. The resulting data provide a great deal of information about learning outcomes in the year of the tests (including analyses by gender, race, region, school experience,etc.) and, when accumulated and analyzed over time, the test results also yield trend information that enables us to see progress (or its absence) across the years and decades. I am appending to this statement several charts from Crossroads in Ameican Education, an informative 1989 NAEP report that displays these trends in the central school subjects of reading, writing, math and science.

I will not attempt here to give the whole history of NAEP. Let me simply say that while it was reasonably well designed to yield national information, it was also constructed so as to obscure information about all smaller units --states, localities, schools and students. (The four big geographic regions into which NAEP divided its national data, while sometimes mildly interesting, were useless for policy-making or "accountability" purposes.)

This crippling handicap began to be seen as a major problem in the mid-1980's, a perception sharpened by the U.S. Education Secretary's annual practice of publishing the celebrated (some would say infamous) "wall chart", comparing the fifty states on a number of education indicators. When it came to cognitive learning, the "wall chart" has always used college admissions (SAT and ACT) test scores as its only data source because, the Secretary correctly observed, however ill-suited these test results might be for the purpose of comparing learning outcomes by state, there wasn't any other source of data that could be used for this purpose.

Secretary Bennett appointed a blue ribbon "study group" to appraise the adequacy of NAEP as the nation's principal source of data on cognitive learning and that panel came back in early 1987 with a report urging major changes. The Reagan Administration accepted nearly all of those recommendations and prepared legislation embodying them. During roughly the same period, the chief state school officers and the governors were coming around to the view that a substantially overhauled NAEP might be the best means of obtaining high quality data on learning outcomes that would be comparable across states as well as informative for the nation as a whole.

Because NAEP is a federal program, authorized by statute, funded through appropriations, and administered by the Department of Education, it was important for the Congress also to weigh these issues and, in late 1987 and early 1988, it did so. The result was the reauthorization of NAEP with major changes as part of the "Hawkins-Stafford" Amendments of 1988. These changes were not, however, nearly so extensive as the Alexander-James panel and the Administration had sought (and the Senate had agreed to). Instead of authorizing NAEP routinely to gather state-by-state data in all of its subjects and grade levels during every biennial assessment cycle, Congress approved a two-step "trial state assessment" to be conducted in 1990 and 1992.

In the first of those years, states wishing to participate (the whole thing is voluntary) could take part in the assessment of mathematics at the 8th grade level. In 1992, state assessment would cover math at grades 4 and 8 and reading at grade 4. No other state-by-state assessments are currently authorized or planned. This means that, as late as 1993 (when the '92 assessment results are reported), we will have no state-level assessment data in science and none at the high school (twelfth grade) level in any subjects or skills.

Congress also imposed a major constraint on the use of NAEP test items, forbidding their use within states for purposes of testing and reporting data at the school or district level, thus also making it impossible to use a NAEP-derived test for appraising the achievement of individual youngsters. Though a number of states want to synchronize their intra-state assessment programs with NAEP, today this is virtually impossible for them. (There is a technical loophole, since the ban only applies to those test items used in the state-by-state part of NAEP, not those used exclusively in the "national" assessment. But if state-by-state assessment were ever to become fully merged with national assessment such a ban would totally preclude the use of NAEP within states, thus radically reducing its utility for educators and policy-makers.) I was not privy to the Congressional processes that resulted in this ban, but it has been reported that pressure to impose it was brought to bear by local education officials, parent-teacher organizations and commercial test publishers.

The strengths of NAEP

The National Assessment of Educational Progress is not the only imaginable way to gauge our progress toward national education goals and standards at the elementary-secondary level. It does, however, have marked advantages. These include:

1. It is not a "norm-referenced" test that simply describes student performance in relation to a floating national average. Progress can only be tracked over time if the gauges are calibrated to a fixed standard. NAEP now reports its national data in relation to "scales" that, once set, can be stable over time (so long as the assessment itself does not fundamentally change). The attached pages from the Crossroads report demonstrate what I am referring to. It is entirely plausible to think of setting education goals (for cognitive learning) in relation to those NAEP scales and then measuring progress over time in relation to those goals. Indeed, the National Assessment Governing Board has a statutory mandate, as yet not fulfilled, to establish "appropriate achievement goals" for the nation's students in each of the subjects and grade levels included in NAEP. The Board hopes to synchronize its execution of this "normative" or "prescriptive" role with the goal-setting efforts of the governors and the White House.

2. Not being norm-referenced, NAEP also avoids the absurdities of the "Lake Wobegon" effect, in which perfectly serious and otherwise sensible people talk of getting all students up to or above "grade level", seemingly oblivious to the fact that, when used this way, "grade" level is itself merely the average achievement level of present students. It is possible that goals attached to the NAEP scales might one day even anchor the definition of "grade level" so that it will come to mean where students ought to be rather than where they happen to be.

3. NAEP is a "secure" test, invulnerable to cheating and manipulation.

4. NAEP is not the SAT or ACT, which is to say it properly samples the entire student population, not merely the college bound, and it does so at three age/grade levels, not just at the conclusion of secondary school. It also avoids the age-old debate about whether tests designed for one purpose (in the case of college entrance exams, as measures of aptitude for college-level work) should be used for another (evaluation of school achievment). NAEP is unashamedly a means of appraising performance, or attainment, at particular age and grade levels.

5. NAEP is not just a "summative" instrument that tells us how we have done without giving us any clues as to how we might do better. NAEP's vast pool of data lends itself to formative analysis for diagnostic and policy-making purposes. We can see from NAEP data which writing skills, for example, are strongest, which weakest. We can see whether a particular grade level is stronger in math than in science and, within a subject, which topics or issues are in better repair than others. We can also ascertain differences in performance by grade level, by race and gender, etc. Particularly when such information is available to the states, it will be deeply informative for key policy makers and education practitioners.

6. Though cumbersome, the "consensus process" by which NAEP determines what to test allows wide participation of educators, policymakers, scholars and citizens, and permits a reasonable marriage between what is in the curriculum and what is assessed by

NAEP. (The same process can also broker a marriage between a more "idealized" curriculum, such as that suggested by loftier outcome goals, and what is assessed by NAEP.)

7. NAEP is now fairly adept at presenting its major results in ways that laymen can understand, especially because of its success in expressing various levels on its "scales" in terms of "real world tasks" that people can visualize.

8. NAEP is broadly respected and generally trusted through the education and policy-making communities for its integrity, its accuracy and its candor.

9. Within the past two years, we have learned that NAEP can furnish a credible base for international comparisons of cognitive achievement and that other countries are eager to participate. One such study has been carried out and another is in preparation.

Weaknesses of NAEP

In its present form, NAEP is far from a perfect instrument to meet our mounting needs for data about cognitive outcomes. I have already mentioned two of the largest shortcomings embedded in NAEP's 1988 reauthorization legislation: the very slow and incomplete menu of state-level data that NAEP is scheduled to provide, and the ban on intra-state use of NAEP items. In addition, I believe that NAEP presently suffers from eight other significant disabilities--though these all seem to me to be susceptible to correction, provided the will and the resources are provided.

1. NAEP's testing format relies heavily on the "multiple-choice" format. (Writing is a large exception to this statement; math and reading are partial exceptions.) This confines the assessment to the kinds of skills and knowledge that can be probed in that format, which--oversimplifying a complex point--generally means the easier and more rudimentary kinds of learning, those calling least for analysis, reasoning, complex problem solving, systematic expression, persuasion, and so forth.

2. NAEP's present plans omit sizable domains of the school curriculum, such as foreign languages, art, music, health, and economics. (The Governing Board has the authority to add subjects, but the legislatively-mandated cycle of testing reading, math, writing, science and history/geography, combined with resource and time constraints, makes this difficult to do in practice.)

3. NAEP is lamentably slow in reporting its data, often not getting results into public view for two full years after the tests are given. Current plans will "speed" this up to 12-15 months. Yet virtually every other major testing program in the world gets its results out in a few months, including college entrance tests and state assessment programs in such large jurisdictions as California (where the California Assessment Program, which tests far more children than NAEP, turns around its data over the summer.) There are reasons, of course, for NAEP's slowness, but they are not nearly so compelling as the need to make a radical change here.

4. Some features of NAEP's technical design contribute both to the slowness of reporting the basic data and to the difficulty that independent scholars and analysts have in using NAEP data for their own purposes. This is not the place (nor am I the person) to

describe these technical features in detail. Many of them, it may be noted, originate in the desire to limit each child's "test burden" to a single hour, a constraint that many educators say is not nearly so important as NAEP tradition makes it out to be.

5. NAEP's present sampling and analysis methods yield little or no data about the achievement of important subsets of the American population, such as dropouts (and other out-of-school students, including those who may even be pursuing "high school equivalency" certificates); handicapped and gifted students; pre-school and primary grade children; and, in many cases, private school students.

6. As testing programs go, NAEP is relatively expensive. Though federal funding for it has quadrupled in the past four years, its resources are scarcely adequate for its present workload, let alone any additional burden. Some of the costs are, of course, associated with NAEP's strengths; administering a secure test, for example, is obviously more expensive than the other kind. "Consensus" procedures are costlier than edicts. Careful sampling requires more resources than hasty polls and surveys. During the present school year, NAEP is testing approximately 218,600 youngsters. The total cost of NAEP to the federal goverment (there are also expenses borne by states) is about $19.2 million. The "unit" cost is thus about $88--though it needs to be understood that much of this is accounted for by planning, development, management and analysis expenses that would not rise proportionately if the NAEP sample were to expand, hence the marginal cost per student in no way equals the average cost.

The other way to look at this, of course, is that NAEP costs less than one hundredth of one percent of what the United States is spending on elementary/secondary education this year.

7. The NAEP cycle is two years, not annual. Hence under the current configuration NAEP cannot yield fresh achievement data for yearly report cards.

8. NAEP's planning-and-governance structures are complex, cumbersome and slow-moving. Making any significant change in the actual assessment is therefore roughly analogous to turning an aircraft carrier.

Other Information Resources

As noted earlier, we have a steadily improving supply of education data in the United States. After decades as an undernourished, not very professional and rather stodgy agency, the National Center for Education Statistics (NCES) is finally beginning to come into its own as a major federal statistical unit. A number of vexing data gaps are being narrowed; the quality and reliability of the information are respectable; the timeliness and utility of the reports are better every year.

The resource level has risen commensurately, from $12.3 million in fiscal '86 for all NCES activities (including NAEP) to $40.3 million in fiscal '90. [At the risk of twisting my elbow patting myself on the back, I note that these improvements are not entirely adventitious. For three and a half years, Secretary Bennett and I made "repairing the education data base" a major priority. The Congress and the "field" were ready. OMB went along. And in Emerson Elliott we had exactly the right person to organize and implement the thoroughgoing transformation that was indicated.]

The organizational infrastructure is thus beginning to be strong enough to bear a substantially heavier burden. Many of the needed bodies of data are now either being collected or in the planning-and-design stage. Still, some troubling gaps remain. These include:

--very little information on education that takes place outside of conventional schools and colleges;

--scanty information on what is being studied at the postsecondary level and virtually none on what is learned there;

--skimpy data on most aspects of pre-school education (teachers, curriculum, completion rates, learning levels, effectiveness, etc.);

--little information on the actual content of the elementary/secondary curriculum (most current data being limited to "course labels" and "graduation requirements" expressed in Carnegie units);

--almost no information about the actual pedagogical processes and instructional strategies in use in American schools;

--little information on dropouts, on part-time students and on others who leave the formal education system, even those who may continue to study and learn in other settings;

--little information on the "fit" between formal education (at any level) and subsequent employment; to the extent that students are "tracked" at all, they are usually followed only into other educational institutions.

There are partial exceptions to all these statements, but in general they are representative of the kinds of things we do not know very much about, even for the nation as a whole, let alone for--and across--states and their subdivisions.

On the international front, the information shortage is far more acute. While the Charlottesville "communique" makes frequent (and I think commendable) reference to the idea of comparing American educational performance to that of other nations, in reality the international comparative data on education are scant, late and murky. Though the United States has spearheaded an effort to persuade the Organization for Economic Cooperation and Development (OECD) to become more vigorous in gathering education data from its member nations (which include virtually all the industrial democracies), this is like turning an aircraft carrier with only half an engine! Presently, all our international data on cognitive outcomes derive from occasional small scale research studies (such as those of Michigan professor Harold Stevenson); from the intermittent (and slow) projects of a fragile, impoverished and obscure organization called the International Association for the Evaluation of Educational Achievement (IEA); and from the aforementioned NAEP-based assessments, of which just one has taken place and another is being planned.

As I have noted several times, information on cognitive learning outcomes is our weakest link at the state level, too, despite conscientious efforts by state officials in recent years to rectify the situation. I am appending to this statement two pages from the 1988 edition of State Education Indicators, a publication of the Council of Chief State School Officers. It sets forth with concision and clarity the current situation with respect to "outcomes" data from the standpoint of the "chiefs", and their general recommendations as to what should be done. The reader will note the emphasis that the chiefs place on NAEP state-level data.

The governors have reached essentially the same conclusions. Herewith an excerpt from the "outcomes" section of the 1989 Results in Education report of the National Governors' Association:

> Indicators of the quality and effectiveness of American education have consistently been lacking, especially at the state and local levels. Only at the national level have data been regularly collected on American students' knowledge and skills in various subject areas,...largely because the U.S. Department of Education has funded the National Assessment of Educational Progress (NAEP) testing program....
>
> Currently, dropout rates are collected by virtually all states. However, data comparability across states and within some states has been persistently problematic....
>
> In an effort to collect accurate data on dropouts, states and state-based organizations...have developed a more uniform definition of dropouts that will allow comparisons across states and over time. They also have worked to establish a reporting system on those students who do not complete their education....Full survey implementation should take place in the 1991-92 school year with results to be reported in the spring of 1993....

Individual states, of course, sometimes have extensive information sources of their own, and several do a commendable job of analyzing and reporting data--including information about cognitive learning--on individual youngsters, on schools, on local districts and for the state as a whole. Many of them depend for their information, however, on commercial tests that, as Dr. John J. Cannell has devastatingly shown, tend to provide falsely encouraging results because of weak test security, questionable (and archaic) norming practices, and for several other reasons. Even where the commercial test data are trustworthy, it must be understood, they are rarely comparable across state boundaries. Hence a governor or chief state school officer may have useful trend information for the state itself (and perhaps for its subdivisions), but he cannot gauge his state's performance in relation to other states, to the nation as a whole, or to other countries. The most he can hope to do is to compare the current performance of his state with other jurisdictions that happen to administer the same test.

In any event, norm-referenced tests are not the way the United States ought to be doing this in the 1990's. Comparing ourselves to a floating average tells us nothing about real changes-over-time and nothing about how we are faring in relation to other countries. Most norm-referenced tests also display all the shortcomings of multiple choice testing, a sorely inadequate assessment mode in an era when we need to emphasize deep subject matter mastery and higher order reasoning skills.

Conclusion

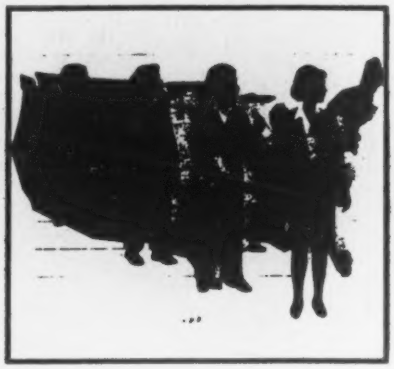
It's cognitive learning outcomes that matter most, especially in relation to the sorts of national goals and standards we are apt to be setting. Hence it is information about learning outcomes that we need most, if we're to be able to monitor our progress toward those goals and standards. And this is information we will need at every major level of the education system: the individual child, the classroom, the school, the school system, the state, and the nation as a whole. We need to be able to relate that information both to the goals we set and to the progress being made by similar units (other children, other schools, other states, etc., even other countries that do not necessarily subscribe to our goals).

This is a very tall order. Today, our education information systems, though greatly improved since yesterday, are still not up to the task of filling it. If we want them to be able to do so tomorrow, we are going to have to apply a great deal of energy, intelligence, political will and money to the task. Given how long these things take if standard practices prevail, we must also resolve to undertake this mission on a "crash" basis if we are to have any real prospect of obtaining the information we need while we still remember that we need it.

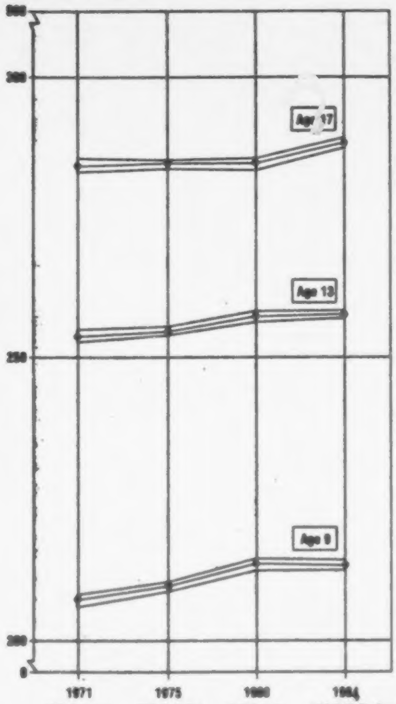
Do not underestimate this task. Goal-setting, by comparison, will be a cinch. We are taking a vehicle that just a few years back was a covered wagon, that today is a 4 cylinder sedan without quite enough fuel, and expecting it to take off and soar through the firmament. Of course, that's approximately the situation with American education as a whole!

Thank you for the opportunity to appear today.

Figure 1: National Trends in Average Proficiency: Ages 9, 13, and 17



Reading: 1971 to 1984



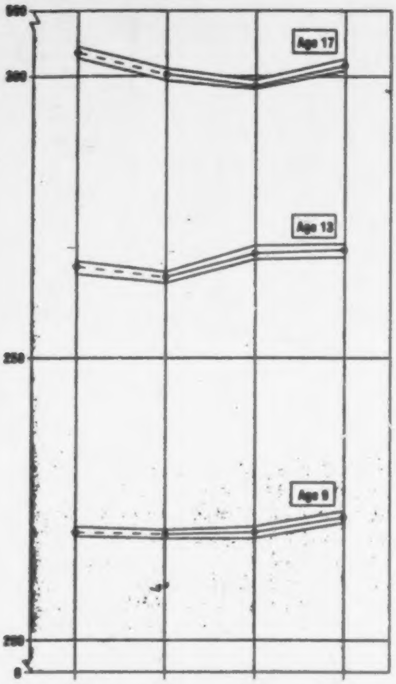
1971	1975	1980	1984	
207.2 (1.1)*	209.6 (0.7)*	213.5 (1.1)	213.2 (0.9)	Age 9
253.9 (1.1)*	254.8 (0.8)*	257.4 (0.9)	257.8 (0.6)	Age 13
284.3 (1.2)*	284.5 (0.7)*	284.5 (1.1)*	288.2 (0.9)	Age 17

[--] Extrapolated from previous NAEP analyses

* Statistically significant difference from the most recent assessment at the .05 level. Standard errors are presented in parentheses

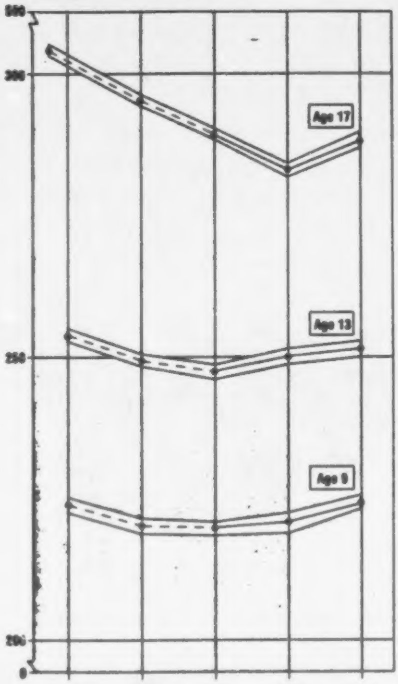
Reading. Students at all three ages were reading significantly better in 1984 than in 1971. The reading proficiency of 9- and 13-year-olds improved steadily through the 1970s, then was stable from 1980 to 1984. In contrast, 17-year-olds' reading proficiency remained relatively constant across the 1970s, then improved between 1980 and 1984.

Educational Testing Service, Princeton, N.J. 1989



Mathematics: 1973 to 1986

	1973	1978	1982	1986
Age 9	[219.1] (0.8)	218.6 (0.8)*	219.0 (1.1)	221.7 (1.0)
Age 13	[266.0] (1.1)*	264.1 (1.1)*	268.6 (1.1)	269.0 (1.2)
Age 17	[304.4] (0.9)	300.4 (0.9)	298.5 (0.9)*	302.0 (0.9)



Science: 1969-70 to 1986 †

	1970	1973	1977	1982	1986
Age 9	[224.9 (1.2)]	[220.3 (1.2)]	219.9 (1.2)*	220.9 (1.8)	224.3 (1.2)
Age 13	[254.9 (1.1)]	[249.5 (1.1)]	247.4 (1.1)	250.2 (1.3)	251.4 (1.4)
Age 17	[304.8 (1.0)]	[295.8 (1.0)]	289.6 (1.0)	283.3 (1.1)*	288.5 (1.4)

⊟ Estimated population mean proficiency and 95% confidence interval. It can be said with 95 percent certainty that the mean proficiency of the population of interest is within this interval.

† Note: While 9- and 13-year-olds were assessed in the spring of 1970, 17-year-olds were assessed in the spring of 1969.

Mathematics. The mathematics proficiency of 9- and 13-year-olds was higher in 1986 than in the first NAEP mathematics assessment in 1973. The performance of 9-year-olds remained quite stable across the 1970s, then improved significantly from 1982 to 1986. In contrast, 13-year-olds' proficiency declined slightly in the mid-1970s, improved significantly from 1978 to 1982,

Table 1: Percentages of Students at or Above Proficiency Levels on the NAEP Scales, 1984 and 1986: Ages 9, 13, and 17*

READING: 1984

	Level Description	Elementary School (Age 9)	Middle School (Age 13)	High School (Age 17)
500				
350	Can synthesize and learn from specialized reading materials.	0 (0.0)	0 (0.3)	5 (0.2)
300	Can find, understand, summarize, and explain relatively complicated information.	1 (0.1)	11 (0.4)	39 (0.8)
250	Can search for specific information, interrelate ideas, and make generalizations.	18 (0.6)	60 (0.8)	84 (0.7)
200	Can comprehend specific or sequentially-related information.	64 (0.9)	95 (0.3)	99 (0.1)
150	Can carry out simple, discrete reading tasks.	94 (0.4)	100 (0.0)	100 (0.0)
0				

MATHEMATICS: 1986

Level Description	Elementary School (Age 9)	Middle School (Age 13)	High School (Age 17)
Can solve multi-step problems and use basic algebra.	0 (0.0)	0 (0.1)	6 (0.4
Can compute with decimal fractions, and percents; recognize geometric figures; and solve simple equations.	1 (0.2)	16 (1.0)	51 (1.2,
Can add, subtract, multiply and divide using whole numbers.	21 (0.9)	73 (1.5)	96 (0.4)
Can add and subtract two-digit numbers and recognize relationships among coins.	74 (1.1)	98 (0.2)	100 (0.1)
Knows some basic addition and subtraction facts.	98 (0.2)	100 (0.0)	100 (0.0)

*The numerical values on the 0-500 NAEP scales were established on the basis of student performance in the 1984 reading, 1986 mathematics, and 1986 science assessments to describe relative performance within those specific subject areas. Each scale was set to span the range of student performance in that subject-area assessment (e.g., about half of the middle-school students will perform above 250 and about half will perform below 250).

Therefore, any given numerical level on the reading scale is not equivalent to the same level on the science scale or mathematics scale. However, the descriptions of student performance at the five anchor points on each scale do provide some basis for discussing the range of student performance across the three subjects. Standard errors are presented in parentheses.

SCIENCE: 1986

Level Description	Elementary School (Age 9)	Middle School (Age 13)	High School (Age 17)
Can infer relationships and draw conclusions using detailed scientific knowledge.	0 (0.1)	0 (0.1)	7 (0.6)
Has some detailed scientific knowledge and can evaluate the appropriateness of scientific procedures.	3 (0.4)	9 (0.7)	41 (1.4)
Understands basic information from the life and physical sciences.	28 (1.0)	53 (1.4)	81 (1.2)
Understands some basic principles, for example, simple knowledge about plants and animals.	71 (1.0)	92 (0.9)	97 (0.4)
Knows everyday science facts.	96 (0.3)	100 (0.1)	100 (0.1)

THE NATION'S REPORT CARD

Table 2: Highest Percentage of Students Performing at or Above the Minimal and Adequate Levels on Various Types of Writing Tasks, 1984: Grades 4, 8, and 11*

	MINIMAL			ADEQUATE		
Type of Task	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11
INFORMATIVE						
Reporting:						
From personal experience						
Care for pets	73 (1.1)	89 (0.8)	—	2 (0.4)	19 (1.2)	—
Job Application	—	—	81 (1.1)	—	—	65 (1.2)
From given information						
Describe Science Project	85 (1.0)	—	—	41 (1.4)	—	—
Order T-shirt	—	85 (0.9)	—	—	67 (1.1)	—
Describe House	—	—	87 (1.0)	—	—	59 (1.2)
Analytic:						
From personal information						
Explain Music Preference	53 (1.3)	80 (1.0)	81 (1.0)	2 (0.4)	8 (0.6)	7 (0.7)
From given information						
Compare Frontier Food to Today's Food	40 (1.4)	81 (1.1)	85 (0.6)	2 (0.4)	18 (1.3)	25 (1.2)
PERSUASIVE						
Convincing Others:						
Capture-Spaceship	67 (1.7)	—	—	23 (1.3)	—	—
Dissect Frogs	—	85 (0.7)	—	—	18 (1.0)	—
Change School Rule	—	—	90 (0.8)	—	—	22 (1.1)
Refuting an Opposing View:						
Travel with Aunt May	49 (1.3)	—	—	25 (1.2)	—	—
Visit Radio Station	—	71 (1.2)	—	—	33 (1.0)	—
Borrow Uncle's Car	—	—	74 (1.0)	—	—	24 (0.9)
IMAGINATIVE						
Ghost Story	81 (1.1)	89 (0.7)	88 (0.6)	8 (0.8)	37 (1.3)	48 (1.0)

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*Standard errors are presented in parentheses.

from State Education Indicators 1988; Council of Chief State School Officers, Washington, D.C.

Data Gaps

This report and others like it amass impressive numbers of state-level statistics on education. But there are major gaps. Among statistics on education, it is difficult, for example, to account for differences in cost of living when measuring per-pupil wealth, and we lack valid, direct measures of the proportion of students who are handicapped or have limited proficiency in English, to use as background factors reflecting educational need. Among features of the process of schooling, a true measure of the quality of teachers' professional performance is not available and will be difficult and expensive to obtain.

Missing entirely from this report are state-level measures of student outcomes, the ultimate accomplishments of the educational system. Even the most rudimentary accomplishment—succeeding in getting students to school—is plagued by inconsistencies in measuring student attendance. Other outcomes that should be reported to reflect the multiple goals of education—school completion rates, achievement, and how students do after leaving school—are affected by differences in how states define enrollments a dropouts, by differences in state testing programs, and by the lack of follow-up data on students after they leave high school.

Most states have comprehensive programs in place for testing student achievement. But to measure achievement, each state uses a virtually unique combination of tests and testing procedures. In addition to the tests used, the time of year when tests are administered varies as do the grade levels that are tested. Standard tests used across states, such as the College Board or ACT college aptitude tests, are neither appropriate for evaluating high school achievement nor do they report on comparable samples of students among states.

Follow-up surveys of what happens to students after elementary and secondary schooling have been too expensive for most states to undertake or maintain.

While outcome data meeting rigorous technical standards are not presently available, steps are being taken to correct the problems. States are adopting new, standard definitions and procedures for counting schools and enrollments. This is the first step in working toward consistent and valid graduation-rate data. Standard definitions for counting dropouts and other categories of students who do not graduate have been developed and are being pilot tested this year by most of the states. Also this year, states will begin planning together for compilation of follow-up data, either collected anew or derived from surveys of employment and higher education.

The most exciting prospect is that state-level achievement data should be available by 1990 or 1991. In May, Congress passed legislation allowing the National Assessment of Educational Progress (NAEP) to conduct a two-year pilot program to collect state-level data in mathematics in 1990 and mathematics and reading in 1992. The states are now working with the federal government to produce state level results for mathematics achievement in eighth grade in the 1989-90 school year. This is a momentous undertaking in education, because it not only offers the prospect of valid, state-comparative data on achievement. It also entails arriving at a consensus among states on what should be measured. This is an historical development in our local-state-federal system of education.

Educators and data specialists in state and local school systems and in federal agencies are working to provide more complete and useful information on education. This summer, the National Governors' Association released its second annual report on education, *Results in Education: 1988*. The report demonstrates the governors' belief in the value of information for assessing education and guiding its improvement. But the report again this year includes blank columns. These are for important areas of education where data still are not available. Including these columns as markers presses the education system to fill the gaps, and the system is responding.

Next steps

The collection of valid, state-level indicators in education is crucial to providing information that can be used constructively to establish education policies for the future.

In order to know how well the system is doing we need sound data on educational outcomes; we need that bottom line and we need to complete that component of a full model of the education system. The outcome data will not only be available but can be interpreted in terms of demographic or regional clusters. For example, low- or high-wealth states would be able to compare themselves to see how they are doing in relation to other states facing similar circumstances, and states in a relatively homogeneous region, like the Great Lakes area might want to compare themselves. These comparisons can be made to guide short-range interpretations of relative standing without removing the principle that performance differences based on demographic factors should be reduced and utimately removed.

In addition, outcomes must be related, at least tentatively, to educational inputs, so policymakers and decision makers have some clues as to where to place their efforts. If patterns indicate that high-performing or improving states have certain program features in common, other states might want to look at those features as areas where improvements might be made.

Over the long run, a comprehensive set of state-level indicators could tell a policymaker or program manager that, under given environmental conditions, certain policies seem to be associated with certain outcomes. Such indicators should not singly, definitively, and conclusively guide policy, but they could add immensely to the information base upon which policy is made.

TESTIMONY OF

DENIS P. DOYLE

SENIOR FELLOW

THE HUDSON INSTITUTE

BEFORE THE US SENATE COMMITTEE ON
GOVERNMENTAL AFFAIRS
SUBCOMMITTEE ON GOVERNMENT INFORMATION AND REGULATION

OCTOBER 23, 1989

ROOM 342 DIRKSEN SENATE OFFICE BUILDING
WASHINGTON DC

The ideas expressed in this testimony do not necessarily reflect the views of the officers, staff or trustees of the Hudson Institute.

Mr. Chairman, members of the committee, it is a pleasure to appear before you today as you examine the question of the adequacy and reliability of the information needed to develop and assess long term, national education goals and standards.

I come before you not as a disinterested third party, but as a data "user," an analyst who, for better or worse, makes his living in large measure by using and interpreting the data that you are interested in. I need hardly point out that I am not alone. In particular, American industry needs high quality data about American school performance as it looks to an increasingly competitive global economy.

By way of illustration, let me direct your attention to two examples that have a direct bearing on the questions before you. First is a book I recently coauthored with David T. Kearns, Xerox CEO. Titled Winning the Brain Race, it is an examination of the shortcomings of American education and offers a six-point proposal to remedy them. Not surprisingly, among the ideas we advance is a radically strengthened federal role in research and development, including strengthened and improved data collection.

As David Kearns and other business leaders have noted, American business cannot compete in world markets without a world class workforce, and we cannot have a world class workforce without world class schools. The first step in school quality is measureable goals and standards; the second is data quality the permits policy makers to reach informed decisions; the third is a solid R&D base. America lags behind on all three counts.

American business, for example, simply could not survive with the R&D base our schools are limited to.

Winning the Brain Race was released 18 months ago but the issues remain unchanged. In that connection let me refer you to the special section in Business Week, Children of Promise, released three days ago. it reflects the same sense of frustration that most business studies of American education do: US data and education R&D is simply inadequate. By any measure.

The problems to which I refer are not new and they have been the subject of serious concern for years. The prestigious committee for Economic Development, in its 1983 report, Investing in Our Children, made many of the same points.

Times are changing, however. Historically, our principal source of data was the US Department of Education (and it will no doubt continue to be the US Department of Education.) I will, then, confine my remarks to those efforts, with one important exception. The US Department of Labor has begun to develop data about workforce readiness that has a direct bearing on your interests, and will be an invaluable source of information for both researchers and policy makers in this area. Their efforts are to be commended and encouraged. Their work is innovation and imaginative, and for the first time permits analysts to begin to "cross walk" levels of academic preparation and the needs of the work force. The efforts are still in the formative stage but they are most promising.

For an important illustration of what this means, I refer you to the work of William Johnston and Arnie Packer and their book Workforce 2000. In that book they are able to derive estimates of skill needs and levels of academic accomplishment for tomorrow's workers.

One reason commonly advanced to explain the relative paucity of high quality data in this area is the alleged difficulty in producing such data. Cited are the methodological and statistical problems associated with producing it.

Let me be absolutely direct about this point: it is wrong. The data problems we experience are substantive not methodological. If there were broadly based consensus on what it was our schools were supposed to do, data about academic accomplishment would be relatively easy to collect.

The major task before the nation in this areas is to arrive at a set of goals and standards that are widely shared. This idea is not unique to the recent Education Summit of the nation's governors, though they are to be commended for supporting it. The most recent Gallup Poll, reported in the Phi Delta Kappan, reports that an overwhelming majority of the public supports national standards of school accomplishment.

National goals and standards are the necessary precondition of serious and effective data collection. We must make judgments about what our young people should know and are able to do, measure it, and then formulate appropriate policy..

Such judgments need not be unduly arcane or obscure: let me offer a partial list to illustrate my point. The nation's workers should be able to speak, read and write standard English; they should be able to perform mathematics to the level of introductory algebra; they should know the rudiments of US and world geography; they should know the basic facts of US and world history; they should be familiar with the great documents of citizenship such as the Magna Carta and the US Bill of Rights; they should know something about US and world literature; and they should have a basic understanding of the principles and applications of science and engineering.

Is this too much to expect? Our foreign competitors expect it of their work forces. If we do not expect it of ours we will falter and eventually fail.

Let me close with a simple illustration. The European Roundtable of Industrialists has recently issued a White Paper on European education and training for 1992. They propose that a new, European baccalaureate degree be created for 1992 and beyond, that it incorporate the highest standards of each of the 12 nations that make up modern Europe, and that a new requirement be added: to earn the new bac, the candidate will have to demonstrate mastery of three European languages, the native tongue, English, and a third European language.

For your information, I enclose a recent op ed piece on this subject that I prepared for the Los Angeles Times.

With American drop out rates at twenty-five percent, and 700,000 youngsters a year graduating without adequate literacy skills, it is not to much to observe that nearly half the age cohort here does not even know one language well enough to compete in the modern economy.

The problem, then, is not measurement, but goals and standards.

Thank you for the opportunity to appear before you.

- end -

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Editorials/Analysis/Comment
Part V

Time for America to Set National Education Norms

By Denis P. Doyle

CHEVY CHASE, MD.

Alone among advanced nations, America has no explicit national educational standards.

Our uniqueness stems from the country's nearly mythic attachment to "local control." Deeply embedded in the American experience, the Constitution's 10th Amendment—the "reserve powers clause"—specifically reserves to the states any powers not expressly given to the national government. Education is a case in point.

That is why California's landmark 1976 Serrano decision, which mandated equal funding for all students, was decided on state rather than federal constitutional grounds, and why federal education programs are "conditional." States and localities are free to accept or reject federal money. The price of the gift, however, is compliance with federal standards—no program, no money. Uncle Sam can't require states to withhold driver's licenses to students who drop out, except by threatening to withhold highway funds.

As powerful as law is custom: Americans have controlled schools locally for two centuries, and most people think it is a good idea.

But do these old ways make sense in the closing decade of the 20th Century? Can we have a vigorous economy—and a functioning democracy—if levels of educational attainment are inconsistent and variable across the country?

With such conditions the United States is virtually alone in the developed world. From France to Japan to the Soviet Union to Britain, we are confronted by countries that have decided their futures can only be secured with national educational standards. What does this mean for America as we look to an increasingly competitive, global economy?

Six years after the release of "A Nation at Risk," the stinging report by the National Commission on Excellence in Education, the question of national standards for the United States is finally being taken seriously.

The Department of Education's National Assessment of Educational Progress are national tests that produce the "nation's report card." And make no mistake, tests determine curriculum. Overseen by a nonpartisan, blue-ribbon panel, the National Assessment is meeting its responsibilities quietly and well.

At the state level, more and more governments are establishing and imposing standards on their schools, describing and defining what it is students should know as a condition of graduation. California is in the forefront of this movement.

But an "education president" notwithstanding, school reform has moved at a glacial pace. And while we have been prevaricating, the Europeans have been getting the jump on us.

1992, when members of the Europe Economic Community remove national trade barriers and create an economic superpower, is not far off, and one of the most important signs is unfolding in Brussels—not the European Parliament, but the European Round Table of Industrialists. It recently published "Education and European Competence."

Not only is the document without precedent in Europe, so is its source, a genuinely pan-European organisation. And the industrialist members are committed to an integrated Europe. Not surprisingly, such a vision goes beyond central banks and border checkpoints. It involves the essence of modern economies: the work force, and the skills possessed—or not possessed.

In this, the European industrialists have taken some pages from the American book, through the work of the American Committee for Economic Development, the Business Roundtable and the National Alliance of Business. First, they meet not as industry representatives but as chief executive officers concerned about the future of Europe. And like their American counterparts, they think education is the top domestic priority.

Second, they recognise that if there is to be a new Europe after 1992, there must be education for Europeans—not Frenchmen, Germans or Belgians, but Europeans. At a national level, it is not a novel idea. Without exception, government-supported education—including compulsory attendance—was a part of 19th-Century nation-building. Schools provided a national glue, creating Frenchmen, Englishmen or Americans.

Not surprisingly, the issue was cast in terms of language as well as curriculum: French in France, German in Germany, English in Britain. It was the same in the United States: Noah Webster's "American Dictionary of the English Language," published in 1828, was explicitly designed as a tool of nation-building. American usage—"labor" rather than "labour"—distinguished us from the English, and Webster was proud of it.

And while we tend to think of modern schooling in less chauvinistic terms, the underlying idea is still correct. E.D. Hirsch's book "Cultural Literacy" makes the point that as a nation we need a common vocabulary, shared knowledge that makes it possible for us to communicate with one another.

What does the European Round Table call for as "European education?" Not the lowest common denominator that so much American education has succumbed to, but what may be regarded as the highest common denominator.

Building on the highest standards of 12 countries that make up the European Community, the round-table group calls for "competencies" that are breathtaking by American standards. For example, to earn a baccalaureate degree—equivalent to a good high school diploma—the group proposes that students master not one, but three languages. The United States would have to go some to match that, since half of America's students aren't literate in even one language.

Most analysts concerned about the quality of American education have compared us with the Japanese, and the comparison is daunting: The top 5% of American math students score at the Japanese average.

The hard fact of the global, knowledge-intensive economy is that we are surrounded by countries that take education much more seriously than we do, countries that are not afraid of setting high standards and insisting that their youngsters meet them. Unless we are willing to concede the future to them, it is time we do the same. □

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COLLECTING EDUCATIONAL INFORMATION THAT IS USEFUL FOR REFORMING AMERICA'S SCHOOLS

Testimony provided to the Governmental Affairs Subcommittee on Government Information and Regulation

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COLLECTING EDUCATIONAL INFORMATION THAT IS USEFUL FOR REFORMING AMERICA'S SCHOOLS

The purpose of this testimony is to address the following question: To what extent can certain kinds of educational information serve as useful assessments of school performance and enable educators to make meaningful decisions about educational reform?

Educational Reform

The idea of reform is that school systems need to do more than simply become better at doing the jobs they currently are doing. School systems need to rethink their purposes, structures, and processes in order to create new jobs to do and to develop new "forms" of schooling that are more appropriate for enabling diverse student populations to function successfully in a knowledge-based society. The present emphasis on redesigning, or "restructuring," schools recognizes that a comprehensive approach to reform involving professional educators, students, lay boards, parents, and citizens is much more likely to be effective in the long run than is occasional patchwork improvement of a program here or a procedure there. The success of reform initiatives, then, has to be assessed by the extent to which these efforts encourage, cajole, or force school districts to reconsider what their educational enterprise is all about, how they need to organize themselves, and what they have to know and be able to do in order to be successful.

Statewide Test Results as a Specific Case

Allow me to begin with a story. My colleague, Bruce Wilson, and I have just completed a two-year study of one specific kind of information -- results from statewide, mandated minimum competency tests (see Corbett and Wilson, forthcoming). In a word, we found that such standardized test results do not encourage improvement. Statewide tests tied to student performance consequences (e.g., graduation) or to district consequences (primarily in terms of public assessments of the quality of individual school systems) did have a tremendous effect on a school district's organization, technology, and culture. As the perceived level of the stakes associated with a test increased and the pressure on a district to improve its performance mounted, the effects of implementing the testing program were more of the sort associated with raising scores rather than improving learning. The professional educators themselves noted that there was a point where strategies to raise scores diverged from strategies to improve learning. Indeed, the more testing programs leveraged districts into action, the more this action became a narrow-minded pursuit of higher scores.

Although this ability of a statewide testing program to control local activity may be praiseworthy in the minds of some educational critics, the activity the program stimulated was not reform. Responding to testing did not encourage educators to reconsider the purposes of schooling; their purpose quickly became to raise scores and lower the pressure directed toward them. Responding to testing did not encourage educators to restructure their districts; they redirected time, money, and effort so that some parts of their systems could more expeditiously address the test score crisis while leaving the parts unaffected by testing or producing "good" scores unscathed. Responding to testing did not encourage educators to rethink how they should teach or how they should administer schools; once again, they addressed the instructional process only in the parts of their system that felt the direct impacts of testing. Responding to testing did not encourage educators even to reaffirm existing purposes, structures, and processes as efficacious; they rarely, if at all, seriously considered the alternatives -- and certainly did not do so using input from a broad array of educators and educational stakeholders.

Instead, educators relied on instructional and organizational "habits" that had been present in their educational systems for a long time -- e.g., drill and review in classrooms, pull-out programs for remedial instruction, assigning additional duties to existing positions, etc. -- even though some of the habits, particularly those related to instruction were ones that many educators believed did not represent state-of-the-art practice. Thus, the majority of effects we observed represented an eschewing of systematic analysis of alternative educational purposes, structures, and processes and a reinforcement of educational practice that had been present in American education for years.

The Inappropriateness of Student Outcomes as a Tool for Reform

Let me move to a more general argument: Information about student learning outcomes is an inappropriate tool for promoting reform at the local level.

While mandating attention to student outcomes can control activity at the local level, these measures are not useful for guiding reform activities. Information about student learning outcomes only provides information about what it is students do not know or do not know how to do. This information tells educators nothing about how the school system should be organized and operated differently to alter those outcomes, should they perceive that the results are less than desirable. To the extent that outcomes guide action at all it is in the direction of working harder at doing what schools have already been doing. To the extent that what schools have already been doing contains a considerable number of "bad" habits in their preparation of students to live effectively in modern society, then school district staff members will essentially latch onto their bad habits more intensively. The fault is not the educators'; they have no guidance from the indicators imposed on them by local and state policy makers to do otherwise.

Suppose, for example, students in third grade are having difficulty finding the least common denominator in adding or subtracting fractions. A "logical" conclusion would be that third grade teachers need to concentrate on that objective more. But, what does "concentrate" mean for the adults in the school system in terms of rethinking educational purpose, process, or structure? With respect to purpose, do the professional educators decide that this skill is superordinate to other skills that eight year olds should develop, or do they decide that spending more time on this particular skill would interfere with other, perhaps more important, priorities? Do they decide that the problem is one of process and engage in the search for different instructional techniques that would enable staff to teach math skills more effectively without having to allocate more time to the particular skill in question? Or do they venture into structural solutions and decide that self-contained, homogenous classrooms are incongruent with effective math instruction? Perhaps in the absence of any guidance they will adopt a "plumber's friend" style of reform and do all of the above. The test score information offers no basis for such decisionmaking.

If, as another example, a school district's staff members discover that 75 percent of the students have been unable to read at grade level, where do they turn for remedies? The indicator of student achievement (including detailed analyses of test objectives) does not tell them whether students need more reading instruction, different reading instruction, better reading teachers, increased opportunities to develop higher order thinking skills, or an improved classroom learning environment, to name just a few of the possible implications of poor reading scores. Student outcome measures, by themselves, are simply not useful for driving reform.

In Schlechty's (1990) view, student outcomes are the products of quality but do not measure quality themselves. Quality measures attend to the actual work that students, teachers and administrators perform. Thus, while a district will clearly have differences in student outcomes in mind when it undertakes its reform effort, it also will focus on a variety of intermediate steps related to student and staff performance, the attainment of which are assumed to lead to improved student learning. Such results may be the extent to which students complete classroom and homework assignments, the amount of time students actually engage in school work, the development of a common language of instruction among all staff members, knowledge about and agreement with a shared purpose concerning the district's work and/or the quality of the work that staff members design for students to do.

For example, a principal in a Wisconsin high school explained to me during a conference that he and his staff believed that students' failure to complete classroom and home assignments was preventing them from learning as well as they should. They decided that one way to improve student learning, then, was to insure that all students completed all assignments and added an extra period at the end of the school day for every student who had not finished assignments as a result of this conclusion. Students who could do the work, but previously had not, quickly began to finish tasks on time; students who could not do the work were identified, given redesigned assignments, and/or provided special instruction. The principal said that achievement test scores had begun to rise subsequent to this program, although this consequence was not a stated intention of the effort. By altering the quality of student's behavior, the faculty was able to alter a widely used indicator of student learning without concentrating on strategies that would inflate the test scores on that specific test.

If new patterns of rules, roles, and relationships are needed to produce different results, then those results should provide considerable direct information on what it is about those new patterns that is effective or ineffective. The point is that diagnosing student weaknesses is not the same as diagnosing system weaknesses; and without system diagnosis little guidance is available as to what it is about existing purposes, structures, and processes that need changing.

Good strides have been made with respect to better assessments of the quality of student performance. For example, Connecticut is beginning a performance-based assessment program in math and science.

While several states have started similar experiments (e.g., California and New York), Connecticut's seems to be the first to move into large-scale testing of this sort. The program "will measure student performance on a series of tasks that may take as long as a semester to complete... Students will be asked to work individually and in groups to frame problems, collect data, and analyze and report their results" (Rothman, 1989:1,21). These activities will do a better job of telling educators what students need to do differently. However, similar developments have not been made with respect to assessments of what educators need to do differently. Even with current proposals for new teacher assessments in place (see Bradley, 1989 for a summary), there remains a lot of work that has to be done before "system assessments" will be available.

At a minimum, a system assessment must attend to what administrators need to know and be able to do in order to support teachers' ability to obtain and use the knowledge and skills necessary to encourage students to behave in ways that lead to learning. That is, for an assessment to be of use in governing action, it must inform the system about relationships among elements of the district rather than just particular characteristics of certain elements in isolation from the others. This is the kind of information that educators need in making decisions about how to reform their systems -- information about whether they are behaving in ways that will enable students to behave in ways that lead to learning. This argument assumes that to the extent that national goals or standards are desirable, they should pertain to practice rather than products.

Educational Information and National Goals

But even if one buys the argument that the information we need to collect should be more like those mentioned in conjunction with systems assessments, I am not convinced that the collection of such information should be a part of setting national goals or standards.

Last time I looked, we do not have a national educational system -- and for good reason.

A school district is not a school district is not a school district. Certainly there are similarities, but each system has a different set of conditions that it faces. These differences make a difference in terms of what needs to be done, how to do it, and what the outcomes of the doing will be. In fact, two major themes in the literature on school improvement are that some changes work some times in some places and that being sensitive to the local context in which implementation is to occur will enable leaders to improve their chances of making changes (1) that are effective in that setting and (2) that last.

Context, then, refers to the time and the place in which a policy is to be implemented. "Time" is important because there is a "right" time for change at the local level, or at least an expected time for it. For example, teachers often anticipate, although not necessarily welcome, a period of change with the advent of a new principal, superintendent, or school board. Or, occasionally, educators who begin to share a sense that their work has become stagnant also begin to share an expectation that change should be imminent. Of course, the time for change is not right in all districts at the same time. The use of national goals and the information that indicates their attainment as means of leveraging local activity is oblivious to such differences. Districts that would welcome an external stimulus to "jumpstart" an improvement effort, districts that already have embarked on reforms of their own and would be resentful of external attempts to disrupt their activity, and districts that have a considerable number of intractable problems to address before a concentrated focus on instruction can be mounted are all treated equally in the eyes of policy makers.

There is also a certain amount of time needed for changes to occur and take hold. It may take as long as three to five years for significant educational reform to be planned, implemented, revised, and finally incorporated into the system -- depending on the situation of the individual districts. On the other hand, information collection cycles create a sense in the public's mind that improvement will be reflected quickly in the indicators. If a district engaging in longer term reform activity is not fortunate enough to enjoy a serendipitous improvement in the indicators while reform is taking place, then the effort is not likely to be buffered long enough to have a chance to be institutionalized. There is no guarantee, in fact, that the disruption that accompanies wholesale changes in an organization will not actually cause improvement on particular indicators to decline for a while. Thus, trying to attend to national indicators may actually mediate against the engagement in practices that ultimately will be the most effective in improving the system.

The "place" is also an important aspect of school context and includes a district's organization (structure and process), culture (definitions of what is and what ought to be), politics (distribution of power and decisionmaking authority), and economics (availability and allocation of resources). As with time, districts vary on these characteristics and, moreover, schools within districts can vary on these characteristics. Giving national attention to certain information imposes a uniform need to respond on systems that have widely disparate capabilities to respond. Some are able internally to limit the external attempt to control their activity by encapsulating the response and continuing life as usual elsewhere in the system; others are unable to resist external demands and thus are continually tossed about on successive waves of initiatives.

Of the ways that "places" can vary, perhaps the most important to consider is culture. Culture is "shared definitions of what is and what ought to be, symbolized in act and artifact" (Wilson, 1971:91). These definitions embody statements of purpose about what educational activity in a particular subject department, school, or district seeks to accomplish. It follows that if definitions of purpose differ from setting to setting, then the indicators educators and citizens use to determine the degree of their satisfaction with their pursuit of purpose will also vary from setting to setting. Districts with many college-bound graduates will likely keep a close watch on SAT scores; districts with many drop-outs will likely scrutinize students' reasons for leaving school and the overall dropout rate to determine how well they are doing. National indicators can become all-purpose indicators, irrespective of the possibility that the indicators are inappropriate for locally-defined purposes. The consequence is that a potentially disruptive incongruence emerges between purpose and results.

National goals and standards serve a very important symbolic purpose in that they draw needed attention to school reform and underline the importance of education in American society. They do not serve a substantive purpose in actually directing the nature of that reform. Perhaps the most effective stance at the national level would be to engender the establishment of goals and standards at the local level, thereby maintaining the symbolic importance of federal interest in education while increasing the chances that the goals and standards would be relevant to local reform.

Final Comment

The real educational question is how to accumulate evidence of how well schools are doing that encourages, rewards, and avoids obstructing honest and reasonable attempts at improving schooling. This evidence has to concern the practice rather than the products of education. Too much important work is needed on how to assess the quality of educators' and students' actual behavior to spend resources on tinkering with fine-tuning the assessment of indicators of student learning.

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Testimony Before

Committee on
Governmental Affairs

Subcommittee on
Governmental Information and
Regulation

By

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Mr. Chairman, I appreciate the invitation to talk with the distinguished members of this subcommittee about the availability and quality of education data and how they relate to potential national goals.

Your letter outlines three questions that I will address in my testimony:

o What are the strengths and weaknesses of existing national education information collection systems?

o Are there needs for additional information to enable us to assess progress and make effective decisions?

o Who should have responsibility for identifying and developing national education information and statistics, and what, in particular, needs to be done at the Federal level?

I will organize much of my discussion around the several areas identified at the Charlottesville summit. However, I want to emphasize four points. First, we do not yet have goals; what came out of Charlottesville was agreement about the areas in which the President and the Governors have committed themselves to formulate goals. Second, we do not yet have agreement on the appropriate measures of progress for any such goals. The President and the Governors are committed to accountability and to "report cards," but there is an essential step between goals and reports which has yet to be taken. For that reason I can only talk in a general way about the quality of data that might be needed to monitor progress toward achievement of goals.

Third, the level of aggregation and who is asking the question also makes a difference in terms of the data that are required. If the goals are for the system as a whole, national data, such as has been gathered by NAEP in the past, are sufficient. If State-level goals, then State-representative data are required. If the goals are envisioned as applying to individual students, then enough data would have to be collected about each student to assess his/her performance. Similarly, the data requirements are also a function of how the information is to be used -- for example, to change curriculum, approve textbooks, or alter teaching methods.

The fourth point is that education data systems must respond to a variety of needs and the goal topics identified in Charlottesville are an important, but still only partial, use for data. For example, school superintendents, principals, State boards of education, citizens councils and other bodies or individuals may articulate additional goals than those elaborated at the summit in Charlottesville. Data are also needed to allow the equitable distribution of Federal education aid, to monitor Congressional mandates such as vocational education and student financial assistance, and to describe the entire area of postsecondary education, which was largely outside the focus of the Summit.

Today I will talk about the availability and quality of NCES data in the general goals areas from Charlottesville within the context of our broader agenda. Finally, NCES is not the only part of the Federal government that collects education data. Even if the Center does not collect data in a given area, there may be data from other sources.

Question 1. What are the strengths and weaknesses of existing national education information collection systems?

First I want to talk briefly about NCES' overall program of data collection, which is the first question listed in your letter. NCES collects an enormous amount of information through four basic types of surveys:

- Administrative record surveys
- Longitudinal surveys
- Cross-sectional sample surveys
- National Assessment of Progress.

We conduct large, administrative record surveys at both the elementary/secondary and postsecondary levels -- the Common Core of Data (CCD) and Integrated Postsecondary Education Data System (IPEDS) respectively. These are annual data collections in which we collect basic descriptive information with a high level of geographic detail for the entire education system -- numbers and characteristics -- about students, faculty, institutions, and finances from the States (CCD) and postsecondary institutions (IPEDS) based on data they maintain in their own administrative records. Our administrative records data collections cover entire "universes," from which we gather information about every single public school, school district, and postsecondary institution in the country.

We also have three longitudinal surveys, where in the initial (base) year we survey students in a particular grade and then resurvey the same students periodically for a number of years. These surveys provide a great wealth of detailed data on cohorts of students, for policy research and causal analysis. The National Longitudinal Study of 1972 (NLS72) began with high school seniors in 1972; this group (or cohort) has been resurveyed five times, the latest being in 1986. High School and Beyond (HS&B) began with two cohorts, sophomores and seniors in 1980, and so far there have been three follow-ups of both cohorts -- 1982, 1984, and 1986. The latest longitudinal survey is the National Educational Longitudinal Survey of 1988 (NELS:88), which began with an eighth grade cohort in 1988. The first two follow-ups of that group will take place in 1990 and 1992, when they are sophomores and seniors. A fourth longitudinal survey will begin in 1991, Beginning Postsecondary Students (BPS), which will start with a cohort of first year, first time college students.

The longitudinal surveys provide a very rich data base for answering research and policy questions because they gather detailed information about students, their schools and teachers. They also allow us to study the transition of students through and out-of-school. The HS&B sophomore cohort was one of the two data sources for the recent report on dropouts prepared by the Center.

The Center conducts a variety of periodic cross-sectional sample surveys at both the elementary/secondary and postsecondary levels. These surveys provide repeated observations on specific topics for monitoring trends. They also serve as an information base for examining relationships among different aspects of education. These include surveys of teachers, school districts, students, recent college graduates, and postsecondary faculty. The periodicity, that is the frequency, of these surveys is every two or three years. In these surveys, a limited number of individuals are selected to be surveyed in a given cycle of a survey. In the next survey cycle, another set of individuals are selected, rather than resurveying the same individuals as is done in a longitudinal survey. For most of the Center's sample surveys, the samples are nationally representative, but not representative for geographic subdivisions below the national level, i.e., States or school districts.

The final type of survey is the National Assessment of Educational Progress (NAEP), which has been conducted since 1969. NAEP has been the only nationally representative assessment of what students know and can do. Data were collected annually until 1979 and have been every two years since then. One or more subjects are included in each assessment. NAEP was originally designed to preclude State-level reporting. In the 1990 and 1992 assessments, limited representative State-level assessments will be conducted on a trial basis in States that volunteer to participate. The States must bear the cost of administering the State-representative assessments, while NCES bears the costs of developing the assessments, monitoring and quality standards, analyzing the results, and administering the national level assessments.

Some of the strengths of this diverse system of surveys include:

- Broad coverage of a wide variety of topics related to teachers, students, institutions, finances and outcomes;
- Expansion in data collections about a variety of topics in recent years. New surveys have been added that have dealt with:
  - Student financial aid (National Postsecondary Student Aid Survey, (NPSAS))
  - Elementary/secondary schools, teachers, and administrators; public and private (Schools and Staffing Survey (SASS), which provides State-representative data)
  - Student characteristics and behavior (A third longitudinal survey, starting with an eighth-grade cohort -- the National Educational Longitudinal Survey of 1988, (NELS:88))

- Postsecondary faculty (National Survey of Postsecondary Faculty (NSOPF))
- Beginning Postsecondary Students, characteristics and behavior (BPS)

Expanded and strengthened existing surveys:

- Common Core of Data (CCD)
- Integrated Postsecondary Education Data System (IPEDS)

Pilot-testing new data collections:

- Preschool education
- Dropouts

- Mixture of types of surveys that can provide a variety of kinds of information
  - Descriptive data/indicators
  - Data for monitoring trends
  - Data for causal research and relational analyses
  - Data in sufficient depth and breadth to support analysis of a wide variety of topics

- National Cooperative Education Statistics System (NCESS), a joint venture of the States and Federal government working to develop and apply consistent definitions for data elements in CCD, which will improve the comparability of CCD data and facilitate State comparisons.

Some of the weaknesses of the system of NCES data collections (current or planned) include:

- Lack of State-level data. Most of the survey systems only provide national level data. Those that do have State-level data are CCD, IPEDS, SASS, and possibly NAEP in the future, although for some of these surveys the analyses possible at the State level are limited. A new State-level data collection, such as SASS, does not, of course, provide information on past trends.

- Lack of data below the State-level. Only CCD gathers information from every single public school district and public school. However, some of the other surveys (SASS, NELS:88, NAEP) are designed with large enough samples so that analyses can be done by school district or school characteristics.

- Lack of comparability over time. Longitudinal studies are of limited usefulness for tracking changes over time, since the cohorts are far apart.

- Insufficient coverage of important issues. Spotty coverage of topics, particularly of emerging issues, such as postsecondary assessment and curriculum.

NCES is currently involved in a number of activities to improve its statistical systems in terms of coverage, comparability, timeliness, and quality.

Coverage. In the last several years, NCES has undertaken major redesigns of both its elementary/secondary and postsecondary data programs in order to increase the coverage and relevance of these data collection programs. Before, most data were derived from limited information in administrative record systems, which could not shed much light on a variety of important issues such as teacher supply and demand or equity in student financial aid. This has led to the introduction of a number of new sample surveys of individual participants in the educational programs of the nation -- students, teachers, faculty, administrators. In addition, the administrative records surveys have also been redesigned and expanded. These changes have been accomplished with extensive advice from policymakers, researchers, practitioners, and other key data users.

Comparability. The National Cooperative Education Statistics System is the State/Federal cooperative program mandated under the Hawkins-Stafford Amendments. This program should lead to improved elementary/secondary statistics, as NCES works closely with the representatives from all 50 States to identify areas where better data are needed and to develop common definitions for data items. The end result should lead to a larger set of more comparable statistics for States and localities, that can be aggregated to the national level.

Timeliness. The more quickly NCES can make the data it collects available, either through publications or release of a data tape, the more useful those data will be. Decision-makers at all levels need information about the current situation. They do not want to make decisions relative to a situation that may no longer exist.

As NCES has initiated a number of very large, new data collections, it has experienced some frustrations in not being able to produce the data for users in as short a time as it had initially planned. We are working hard to improve our record in this area, but the complexity of the undertakings challenge us in this respect on a daily basis.

A number of factors increase the length of time it takes us to collect and release our data. Data collection itself is often spread out over a considerable period of time. In the case of the administrative record surveys, the states and institutions from which we collect the data often have difficulty reporting the data on a timely basis themselves. Second, once the data are collected, they must be entered, edited and analysed. These stages can take a considerable amount of time, especially if resources are limited, the survey is complex, or if the survey or procedures are new. For example, developing the appropriate sample weights for a sample survey can be a very complex and time-consuming task.

A new factor, which has delayed release of our newest surveys of individuals -- NELS:88, SASS, postsecondary faculty survey -- is the confidentiality requirements contained in the Hawkins-Stafford Amendments. These requirements are much stricter than those that applied to Center surveys in the past and were enacted after these surveys were already well under way. We have been struggling to determine how we can make the maximum amount of data available to the public while adhering to the confidentiality requirements.

Quality. The technical quality of NCES data collections and reporting is under very close scrutiny, and we are proud to state that -- through concerted efforts of all involved -- the quality of our work has improved greatly in recent years. For example, standards applying to all facets of the Center's work have been developed and implemented; the review process for Center publications has been expanded and strengthened.

Data quality is of paramount importance to NCES, as a Federal statistical agency, because our credibility rests in the validity and reliability of our data. We work very hard to improve and assure data quality and to document issues associated with our data releases. Nevertheless, there is still room for more improvement. We need to build more technical evaluations and experimental feasibility studies into our work as a regular component of our surveys.

Question 2. Are there needs for additional information to enable us to assess progress and make effective decisions?

Let me turn now to the types of data we have available from NCES data bases in the various goal areas identified in Charlottesville. For some of the general goal areas we have or will have very extensive data, whereas for others relatively little is available. The ones for which we have or will have considerable information, at least at the national level, are:

- teacher supply
- international achievement comparisons
- adult functional literacy
- dropout reduction
- academic performance
- school climate and context (safe and drug-free schools).

Ones where information is limited or lacking include:

- preschool readiness
- level of training for a competitive workforce
- technology.

Topics for Which Information is Available

Teachers. The Center has collected data about teachers through a variety of surveys in the past, including CCD, the Public and Private School surveys, and the longitudinal surveys. However, the data that have been collected have not been comprehensive nor have we consistently collected the same data over time. Therefore, there have been many areas about teachers in which the data have been sketchy, including issues related to the supply and demand of teachers.

To remedy the several deficiencies in our databases related to elementary/secondary education, including those related to data about teachers, the Center instituted a new sample survey system, the Schools and Staffing Survey (SASS), in 1987-88, which collects data about teachers, administrators, schools, and school districts. Shortly we hope to release data from the first cycle of SASS, which will be a very rich source of data about teachers, including education and training, supply and turnover, career patterns, characteristics, salaries, and attitudes. Some of the strengths of SASS are that it is state representative and it will be conducted periodically, so it can be used to monitor trends over time from the 1987-88 school year.

Another rich source of teacher data is the new longitudinal survey, NELS:88. The strength of this survey is that the teachers are linked to students in the sample, which makes a variety of analyses possible related to questions about teachers and students. Because only teachers in selected subjects of students in the NELS:88 cohort are sampled, the teachers in NELS are not a representative sample of teachers. Nor is the NELS teachers' sample useful for monitoring trends over time.

International achievement comparisons. In the past the United States has participated in several international surveys of performance. These have included surveys by the International Association for the Evaluation of Educational Achievement (IEA) on science and math, the most recent being the Second International Mathematics Study in 1981-2, which tested eighth and twelfth grade students in 20 countries. The International Assessment of Educational Progress (IAEP) used NAEP items to test science and math performance of 13-year-olds in five countries and four Canadian provinces in 1988. The results of all these surveys have been consistent: American students performed at or near the bottom compared to students in the other countries.

In the near future, there are additional international assessments of performance planned.

- International reading literacy assessment. Sponsored by IEA and to be conducted in 1991. Reading performance of fourth and ninth graders in 40 countries.

- Second International Assessment of Educational Progress. Assessments in science, math and geography in nearly 30 countries in 1991. Current plans call for the participation of China and the Soviet Union.

The international assessments have tended to focus on math and science, reflecting in part concerns about the skills needed in the workforce to maintain economic competitiveness. Furthermore, the assessments have used different test instruments and have been scheduled irregularly, so we lack comparable data over time.

Adult literacy. National data on adult literacy were last collected by NAEP's Young Adult Literacy Survey in 1985. This assessment of functional literacy skills was limited to 21- to 25-year-olds. This survey made two major contributions to the measurement of literacy. First, it measured literacy skills along a continuum, rather than choosing an arbitrary cutoff point to define illiteracy. Second, it measured functional literacy skills along three distinct and independent aspects of literacy: 1) prose: understanding prose materials, 2) document: using documents such as forms and manuals, and 3) quantitative: functioning in areas where quantitative and reading skills are intertwined such as calculating a tip on items from a menu.

As required in the Hawkins-Stafford Amendments of 1988, NCES is planning to conduct a National Adult Literacy Survey in 1992, with results available in 1993. This survey will assess the functional literacy skills of adults ages 16-64. An important part of the development of this survey, called for in the legislation, is a consensus-building process to establish criteria for defining literacy, that will involve researchers, educators, government agencies, and representatives from the private sector. This survey will provide valuable information about the literacy skills of American adults at one point in time. The survey is expected to become part of the on-going NCES program. Thus we will have future trend data, even though we lack comparable past data.

Dropouts. In the past, dropout data have been limited and of poor quality. However, this is an area in which there is a great deal of current activity to improve and expand the quality and quantity of data. Last month NCES issued its first annual dropout report, Dropout Rates in the United States: 1988 (copy submitted for the record). A major contribution of the report was to make clear that no single measure of the dropout rate fully explains the dropout picture; but several different types of rates, each dealing with a different facet of the problem, provide a clearer understanding of the dropout problem facing the country. While the report was based on the existing data sources, which are somewhat limited, it was able to portray a comprehensive picture of what we currently know, with some findings that were not widely known previously, such as the decline in dropout rates in the past ten years and the very serious situation with regard to Hispanic dropout rates -- a combination of extremely high rates (without any decline over time) and of a high tendency to leave school in the sixth grade or earlier.

NCES is pursuing two different approaches to collecting data on dropouts and both are being tested and evaluated in FY89 and FY90. One approach involves developing a new telephone survey of households. A feasibility test of this approach is currently underway. This survey would provide a variety of information on the issue of dropping out, at a national level with data for specific subpopulations (e.g. race/ethnic groups).

The second approach is using NCES' existing Common Core of Data (CCD) as the vehicle for collecting data on students when they drop out at the school district and State levels. This involves an administrative records approach to collecting dropout data. A pilot test of this approach is also underway during FY89 and FY90, involving a limited number of school districts in over half the States.

In addition to these new approaches, dropout data will also be collected through the newest longitudinal survey, NELS:88. Because it will be some time until the eighth grade cohort of 1988 ages through the twelfth grade and because it takes a considerable period of time to develop new surveys or data collection procedures, it will be several years before the new data sources on dropouts will be available:

- o 1991 for NELS:88 -- dropouts between 8th and 10th grades,
- o 1992 for CCD and household survey (if one or both are feasible), and
- o 1993 for NELS:88 -- dropouts by 12th grade.

In addition to these data sources, data from the Census Bureau's Current Population Survey (CPS) will also be available, which allow us to monitor trends in dropout rates over time. High School and Beyond will continue to be a source of data about what happens to dropouts, including whether they later complete high school through an equivalency credential or by obtaining a regular diploma.

Thus, NCES is pursuing the expanded collection and reporting of dropout data on a variety of fronts. In the near future, we may have greatly expanded data that will enable us to monitor progress in reducing dropout rates. Yet, as you can tell from my time references, "near future" means 1991, 1992, 1993. The statistics process requires designs, pretests, reviews, as well as funds and it does take time. Moreover, efforts to short-circuit these necessary steps almost always compromise the technical quality, usefulness, and reliability of the data.

The longitudinal studies are particularly good sources of information about the dropout rates of at-risk students. The richness of data about student characteristics, attitudes, and behavior in those data bases make it possible to examine many indicators of being at-risk. Other data bases, such as CPS and CCD, contain very little information about characteristics which might put a student at risk, primarily race/ethnicity and place of residence (urbanicity).

Achievement. NAEP has and will continue to be the vehicle for collecting data about student performance. This is the area in which we have the most extensive data to measure trends over time. NAEP has been in operation since 1969 and for the three major areas of reading, math, and science, assessment data have been collected periodically throughout the period. However, in the past NAEP has been representative only at the national level.

As you well know, we are now in an era in which we seem to be moving quickly toward a State-representative NAEP. It is not clear yet, how far we will go in this direction and how fast. I will have more to say on this topic later.

NAEP collects limited information about the background characteristics of its students -- limited in part by what kinds of information can be reliably collected from 9-year-olds (fourth graders), the youngest of the three age/grade groups assessed in NAEP. Possible measures of being at-risk collected in NAEP (in addition to race/ethnicity, which is only a proxy for a variety of other factors) include other background variables such as parents' education and type of community (advantaged/disadvantaged and urbanicity), and support for schooling in the home (the number of reading materials in the home, monitoring homework and interest in schoolwork).

School context and climate — Safe, disciplined, and drug-free schools. Limited data on school climate has been gathered in past surveys of teachers, including the public and private school surveys, the HS&B (Consortium) teacher and administrator survey, NAEP and several Fast Response System Surveys. These surveys all asked items about teacher (or administrator) perceptions about the school environment, including crime, violence, discipline, and substance abuse. Current and upcoming surveys also contain many similar items about perceptions of dimensions of school climate, asked of students, teachers, and administrators. These surveys and the respondents being asked such questions include:

o Schools and Staffing Surveys (SASS)

  - Teachers
  - Administrators

o National Educational Longitudinal Survey of 1988 (NELS:88)

  - Students
  - Teachers

o National Assessment of Educational Progress (NAEP)

  - Administrators

The school climate items in both NAEP and NELS:88 have been considerably expanded to facilitate analysis of the relationship between school climate and school outcomes. Since SASS is State-representative and a periodic survey, we will be able to track changes in school climate, as measured by teacher and administrator perceptions, at the State level over time.

Topics for Which Less Information is Available

Thus far I have talked about goal areas in which we have or are planning to have a considerable amount of data, including data down to the state-level in some cases. There are other goal areas identified at the Summit where we currently have little or no data, and for which we do not presently have surveys being designed to provide the information.

Preschool readiness. Currently NCES does not collect any data on preschool education. We rely on data collected by the Census

Bureau, through the Current Population Survey, to monitor trends in preschool enrollment for 3- to 5-year-olds.

The Center is currently pilot-testing a household survey with a preschool component, that will gather data about preschool and child-care arrangements. It will gather limited data about the types of activities which take place in preschool and child-care settings. We are also having a series of commissioned papers written by experts in the field, identifying what the most important issues are in the area of preschool education and what data we should collect.

If the household survey is implemented with a preschool component on a full-scale basis, it will periodically gather data about the use of different types of child-care arrangements by families with young children and how such usage varies by family characteristics and over time. The earliest we might implement the household survey with a preschool component would be fall of 1991, which would mean data would become available in 1992. Such a survey would not gather data about school readiness. Furthermore, since it will be a cross-sectional survey, it could not provide insights into the impact of preschool experiences on later school success.

Data about school readiness would have to be gathered from a student-based survey, either an assessment-type survey covering social and emotional maturity as well as intellectual skills, or a longitudinal survey, which tracked students through the early grades. In either case, it would be extremely challenging to develop and administer a survey instrument for children this young.

The Center is considering developing an early age longitudinal study, but it is balancing among competing priorities. Such a study would provide a great deal of information about elementary school education; we have much less data available about that level of education than we do about the high school years. One important aspect of an early age longitudinal study would be to trace the progress through school of children with different types of preschool experiences.

(Note: Although NCES does not presently collect data on preschool education, other offices within the Department are conducting several projects aimed at surveying the extent and characteristics of early education and care, with an emphasis on disadvantaged children. The Profile of Child Care Settings Study is a nationally representative survey of family day care and preschool program providers that will provide information on enrollment, staffing, program activities and goals, fees, and program structure. In addition, the Department will conduct an in-depth look at the preschool experiences of children through direct observations of about 100 preschool programs. This study will assess children's social and cognitive development during preschool and kindergarten. Finally, the Department is just beginning a nationally representative survey of before and after school care programs of care for young children of working parents when school is not in session.)

Adult training (competitive workforce). NCES does not collect any systematic information about out-of-school learning and adult education. Similarly, we have virtually no data about skills required in the workplace and the extent to which American adults possess such skills.

What data the Center does collect in this area is incidental to other data collections and purposes. For example, the Center has collected a little information about adult education and training through irregular supplements to the Current Population Survey. The latest of these was in 1988 on vocational education and training. The Center is currently working with the Census Bureau to determine whether collecting data on adult education through the October supplement to the Current Population Survey in 1990 is feasible.

Another source of limited data is the longitudinal studies, from which it is possible to obtain information about participation in occupationally-related training and work histories. We do not collect data about employer-provided training. Furthermore, the coverage in our postsecondary surveys of proprietary schools, which provide a great deal of occupationally-related training and education, remains spotty.

Technology. We collect very little data about various types of technology in the schools -- availability, uses, or access. Limited data about computers have been gathered through a NAEP assessment of computer competency in 1985-86 and a few items about computers on the 1989 CPS supplement. In addition, math and science teachers in NELS are asked about the availability of certain types of equipment and technology.

Question 3. Who should have responsibility for identifying and developing national education information and statistics, and what, in particular, needs to be done at the Federal level?

The third question in your letter asks who should have the responsibility for identifying and developing national education information and statistics, and in particular what the Federal role should be. The answer to those questions really depends on what information is desired and for whom. Given that the primary responsibility for education rests at the State and local levels, the heaviest need for data (for monitoring goals or other purposes) appropriately belongs there. In addition, establishing and implementing policies that will facilitate achievement of such goals occurs at the district, school building and classroom levels. The Federal role is a limited one of providing data and research, but it cannot and should not be the only provider.

Goals may be set at a variety of levels:

- National goals, for the system as a whole,
- State-level goals which are uniform across all the States,
- State-specific goals, established by a single State or group of States,
- District-level goals,
- School-level goals, and
- Student-level goals.

The Federal role in providing data to monitor achievement of such goals is probably appropriate only for the first two levels. Data for monitoring progress toward State-specific, district, school, and student goals would be best collected by the level actually setting such goals, as part of their own data collection activities.

An important aspect of the Federal role lies in establishing standards for data quality and coordinating content development and data definitions. This role assists States and localities in meeting their own data needs.

There is also a major Federal role in research into factors that can facilitate the achievement of various types of goals. However, there is an additional need for research sponsored by other groups and levels of government that can look at additional goals as well as interpret national findings in light of particular State and local circumstances.

A final Federal role may be the development of measures of the overall performance of the system. The Congress in the Hawkins-Stafford Amendments called for the establishment of a special study panel, whose charge is "to make recommendations concerning the determination of education indicators." This panel, chaired by Alan Morgan, New Mexico's superintendent of public instruction, will meet for the first time on Nov. 16-17. The panel's recommendations are likely to affect the activities of the Center in several ways. Not only are they likely to affect the content of The Condition of Education, our annual Congressionally-mandated report on the condition and status of American education, but they may also affect our data collection programs, if data are not currently available to develop some of the recommended indicators.

NAEP

There was a great deal of discussion of NAEP during the hearing on October 23. I would like to take this opportunity to make a few observations and comments about NAEP.

One issue discussed on the 23rd was the timeliness of the reporting of NAEP results. The first 1988 results will come out 20 months after the collection. Several factors contribute to the length of time required to release NAEP scores. One is the complexity of the NAEP design, which involves sampling items as well as students. This increases the complexity of the data processing required to turn the raw data into scores. Another is the need to analyse scores from the current assessment for comparability with those from previous assessments. A third is the practice of using a publication containing analysis of the scores as the means for releasing the data. They could be available sooner if the initial data release were in the form of a press release or tabulation. Our goal in a just-awarded contract for the 1990 and 1992 assessments is to shorten the reporting time for the primary data to 12-15 months after the close of data collection.

Some of the discussion in the earlier hearing centered on whether NAEP might be expanded to allow district-level comparisons. While of course such an expansion is appealing as a high quality way to monitor progress toward achievement goals, I want to point out some of the possible dangers inherent in NAEP growing too big or too fast, even if that growth is confined to the state assessment level.

We already are making a very substantial investment in NAEP. It is the largest single component of NCES' budget. In addition, the States are assuming the costs of administering the State-representative assessments. This amounts to somewhere between 70 and 150 thousand dollars per state, depending on the activities and size of the State.

The expansion of the 1990 assessment to include State-representative assessments in one grade for one subject in States which volunteer to participate is already all that we can handle as a first step. It is straining management capabilities of NCES and ETS. Enlarging NAEP to encompass every state, for all three grades, and for all three subjects to be tested each cycle would be a very difficult undertaking. It would present major management difficulties, and could only be attempted as a phased process over a considerable period of time. Not only would the sample size have to be greatly expanded, but the problems of supervising the State administrations and ensuring comparability across States would multiply severalfold.

It is also important to remember that NAEP cannot be used as the only means to gather data about schools and students. Having multiple measures of the status and condition of education not only broadens our perspectives, but also is necessary to give us a complete picture. We also need to maintain a balance in our overall data collection system. As I described earlier, NCES has several different types of data collections and many other surveys besides NAEP. NAEP should not overwhelm all those other important activities.

There are many critical skills that are not currently measured by NAEP, although they might be in future, including noncognitive skills such as student motivation and ability to work in groups, work habits, and persistence, as well as analytic ability. Other types of goals cannot be measured through a NAEP-type methodology. Examples of goal areas where quite different types of data collections are required are the supply of qualified teachers, dropouts, preschool, and out-of-school learning.

Closing Remarks

NCES already collects a lot of information relevant to the goal areas identified in Charlottesville as well as to other needs of policymakers at all levels. Whether we have the data necessary to assess progress toward specific goals in those areas we will not know until specific goals and measures of progress are identified. Much of the data we have is not available for geographic detail below the national or regional levels. There are other goal areas in which we have relatively little information.

One outgrowth of the Summit may be an expanded role for NCES in collecting and reporting data. However, changes will not occur overnight. It takes considerable time for the developmental work to mount new data collections or to add new components to old ones. Prior to implementation, time and resources are needed for planning, design work, obtaining clearances, letting contracts, pretesting, revising the design, and the review processes that accompany each of these stages. Once the implementation phase is entered, data have to be collected, entered and edited, processed, and analyzed for quality control and confidentiality issues. Then data tapes, tabulations, and publications have to be prepared and reviewed before data can be released.

The quantity and quality of NCES work has increased substantially in recent years. This has been the result of very conscious efforts on the part of the leadership and the staff, in part in reaction to severe criticisms of the agency from a variety of sources, including the National Academy of Sciences and GAO. We have undergone a renaissance; we are well on the way, but still have further to go.

This renewal has received a vote of confidence from the Congress in terms of increased responsibilities and budgets over the past few years. Our appropriation has grown from 12.3 million in FY86 to 40.3 million (House-Senate conference) in FY90, an increase of more than 225 percent. Further expansion of the Center's responsibilities in the form of new topics, gathering additional state-level data, and new reporting responsibilities would have major resource implications.

A goal I set when I took over leadership of NCES was not only to improve the efficiency and technical quality of the agency's efforts, but also to make it more responsive to changes in its environment and the needs of its constituencies. We can meet the new challenges posed by the ongoing "revolution" in American education, but we cannot do it alone or do it overnight. It will be a building process that will require time, cooperation and best use of resources. This is a very exciting time in American education and we are ready to face the new challenges, provided we have the necessary support.

United States General Accounting Office

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Education Information: Production and Quality Deserve Increased Attention

Statement of
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Program Evaluation and
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Before the
Subcommittee on Government
Information and Regulation
Committee on Government Affairs
U.S. Senate

Mr. Chairman and Members of the Subcommittee:

It is a pleasure to be here today to report to you on our work on information on education in the United States. I will be presenting central findings and implications that we have drawn in several recent studies and reports. We can report on our general evaluations of federal activities pertinent to education information, as well as on our specific experience as a consumer of such information generated in local school districts.

I want to address three questions:

-- First, what has happened, over roughly the past 15 years, to information about education? Despite the crucial importance of sound information to educational reform and oversight, and the clear federal role in obtaining such information, we do not have glad tidings. Considering federally sponsored activities only, we are doing less than we have done in the past and than is needed now to build the foundations for understanding education.

-- Second, what are some reasons for this decline in information-gathering activity? At least two reasons that are within fairly direct federal control are important. The first and, we believe, most important reason is the large decline in federal funds for the purpose. We found a second reason in problems with the Office of Management and Budget (OMB) paperwork review process that particularly affect new, research-oriented data collection and that appear to be resulting in more-than-usual difficulty for the Department of Education.

-- Third, how far--that is, from national to local levels--does the problem extend? Our experience in a recent evaluation involving four school districts suggests that local data remain problematic for outsiders to use for purposes beyond those initially intended.

We need to know whether improvements already in progress will be enough. We believe changes now under way, particularly at the National Center for Education Statistics (NCES), can lead to much-needed improvements in national data bases, if they receive continued support over the next few years and are not stymied by unnecessary red tape. NCES is not, however, the whole story. The reasons for the education information decline at the federal level are complex. Turning the situation around will take time. With an increasingly ambitious national agenda for evaluation and assessment, information users are likely to be frustrated unless the pace of improvement quickens. But such quickening is uncertain unless the problems of resources and technical capacity we see at present can be overcome.

The Importance of Information About Education

Although education in this country is the responsibility of the states, the federal government spent over $22 billion in fiscal year 1989 to support all levels of education. In 1867, the Congress authorized the creation of a noncabinet Department of Education to obtain information on the condition of education for purposes of identifying emerging needs, determining how well programs are working, and promoting educational improvement. The authorization has continued and expanded over the years.[1] I think that today, no less than in 1867, it is critical to have high-quality information for overseeing federal educational resources, assessing the progress the nation has made in improving educational access and quality, and identifying shortfalls yet to be dealt with successfully. By high-quality information, I mean information that is relevant, timely, technically adequate, and usable for policy decisions.

Declines in the Production of Information

In 1987, we reported on three kinds of information: research, evaluation of federal programs, and statistics.[2] We found that federally sponsored research, statistical and evaluative information on education had declined dramatically during the previous decade. For example,

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[1] Although education was not given cabinet status until the establishment of the Department of Education in 1979, we refer to the federal education agency at any point in time as the department. Similarly, although the name of the statistics unit has varied, we refer to it consistently by its current name, National Center for Education Statistics.

- research grants and contracts awarded decreased from 476 in 1980 to 168 in 1985;
- evaluation awards declined as well, from 80 or more awards annually in the late 1970's and a peak of 119 in 1980 to between 25 and 28 annually, that is, a decline of 79 percent from 1980 to 1985;
- statistical surveys planned or conducted by the National Center for Education Statistics grew from 37 to 55 in the period 1974 to 1980 but then dropped again to the 1974 level by 1983, as intervals between data collections increased (more one-time and occasional surveys) and states got less technical support for data gathering.

Shifts in Priorities, Focus, and Information Producers

Not only was less information produced by the end of the period we reviewed; we also found changes in what was examined and by whom. First, when we reviewed research priorities, we saw a shift away from new data production to service-oriented activity such as the dissemination of results. Sixty-five percent of awards in the National Institute of Education in 1980 were for new data collection; only 11 percent (of awards in the Office of Research which succeeded NIE) went for this purpose in 1985. We believe this shift was so dramatic that the availability of up-to-date information to disseminate to teachers and other practitioners may have become seriously jeopardized.

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[2] The complete study is presented in our report Education Information: Changes in Funds and Priorities Have Affected Production and Quality, GAO/PEMD-88-4 (Washington, D.C.: November 4, 1987).

Second, we found that fewer educational areas were investigated through research grants in 1985 than in 1980. In 1980, for example, 56 of 293 awards for new data collection went toward studies of special populations such as minorities and women. In 1985, there were 5 such studies. Some areas such as learning in nonschool settings and areas identified as "school problems" (including such issues as dropouts and delinquency) received no new data collection funds in 1985; in 1980, there were 33 awards. Even for the topics that have been frequently identified as important areas for educational improvement--for example, improving teacher preparation; strengthening curricula in mathematics, science, and English; more effective instruction; classroom management and school leadership--there were few awards for new data collection in 1985.

Third, there was a shift among those who carried out the work of producing information. The proportion of research awards made to department-sponsored institutions (for example, laboratories and national research centers) increased substantially from 1980 to 1985. In 1980, those institutions received 25 percent of the awards in three major program areas, compared to 56 percent in 1985. The cumulative result of various shifts in awards was that the majority of the department's information producers were institutions or contractors. We noted in our 1987 report that this shift is a concern, since contracts can potentially constrain rather than broaden inquiry, and they may be applicable less to research than to gathering specific information such as under a mandate or consistent data across time such as in statistical series.

Concern for the Quality of Information

In our 1987 review, we looked at four indicators: relevance, timeliness, technical adequacy, and impact of three statistical series, the National Assessment of Educational Progress (NAEP), the Common Core of Data for elementary and secondary education, and the Fast Response Survey System. (The examples did not represent all education information and our conclusions cannot be generalized. However, the examples allowed us to look in depth at important series, ones that exemplified varied data collection strategies and that used a good deal of the department's resources.) We found that

- -- NAEP ranked high on all four dimensions, but it had suffered some decline in relevance and timeliness in adapting to fiscal constraints, for example reducing the number of age groups assessed from five to three and assessing each subject area less often;
- -- the Common Core of Data was not rated high on any of our four indicators, and longstanding problems included noncomparable data across the states; however, we have seen commendable recent efforts to improve some parts of the Common Core of Data;
- -- the Fast Response Survey System was rated moderate to high in quality, although we noted some technical areas where there could be improvement.

Complex Influences on Production and Quality

Turning to my second question -- What are some of the reasons for the situation we observed? -- I can report on several areas we looked into. We found that resources play a major role but that lack of money was not the only issue.

Funding

Although the fiscal resources of the overall Department of Education increased 220 percent in current dollars from 1973 to 1986, from $6.1 to $19.5 billion (or 38 percent in constant 1972 dollars), the trends in support of research, statistics, and evaluation were quite different. Since the mid-1970's,

-- the National Institute of Education (and its successor offices) experienced a 79-percent reduction (in constant 1972 dollars);

-- the National Center for Education Statistics experienced a 65-percent reduction; and

-- the Office of Planning, Budget, and Evaluation's (OPBE's) resources declined by 64 percent.

These reductions are a sharp contrast to the 38-percent overall increase in federal investment in education in the same period.

We also looked beyond the Department of Education for a perspective on research and development (R&D) funding elsewhere in federal departments and agencies.[3] We found that

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[3] See R&D Funding: The Department of Education in Perspective, GAO/PEMD-88-18FS (Washington, D.C.: May 13, 1988).

-- research and development budget obligations in major agencies (including defense) between 1980 and 1987 increased 24 percent (in constant 1980 dollars);

-- major departments' resources for R&D varied greatly, however, with five growing and eight declining in the period; declines varied from 2 percent to 47 percent, and the Department of Education showed a 33-percent reduction;

-- considering eight major federal statistical units, we found that they experienced in the aggregate a real decline of 21 percent in budget authority between 1980 and 1986; departments' individual statistics units varied, one (the Bureau of the Census) experiencing growth while the rest declined; resources for the National Center for Education Statistics declined more than the average, with a 34-percent reduction;

-- federal program evaluation activities experienced a general reduction in available fiscal resources in the early 1980's; aside from the Department of Defense, departments' fiscal resources for evaluation in 1984 were 44 percent lower than in 1980; here, the Department of Education's decline was less than some others, at 34 percent; the decline continued, though not as steeply, across agencies when we looked again in 1988.[4]

These declines are illustrated by the tables given in the appendix, taken from our report on education research and development in perspective. As they indicate, these declines occurred when the obligations for research and development increased 81 percent in constant dollars for the Department of Defense and declined by 33 percent for the Department of Education and declined as well in other nondefense agencies such as Transportation (39 percent), Interior (35 percent), and Environmental Protection (29 percent).

Statistical units were particularly hard-hit. Except for an increase of 12 percent for the Bureau of the Census, other federal statistical units by 1986 lost more than 20 percent of their 1980 purchasing power, including a 34-percent loss for NCES.

Despite these losses in purchasing power, between fiscal years 1982 and 1986, the budget estimate to the Congress for educational research and statistics and the eventual appropriation were about the same and remained roughly level; more recently, requests have begun to rise. Even so, across the years 1983 through 1988, the administration never requested enough to place the purchasing power for education research and statistics at even 60 percent of the 1980 appropriation level.

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[4] Our review of evaluation resources, updated to 1988, is in Program Evaluation Issues, GAO/OCG-89-8TR (Washington, D.C.: November 1988).

The Role of Mandates

Congressionally mandated activities received smaller reductions than other work and thereby consumed an increasing share of available resources. For example, while 55 percent of research resources in 1980 went to legislatively required activities such as the Educational Resources Information Center (ERIC) and the regional education laboratories and research centers, that figure increased to 79 percent by 1984. Information-gathering activity that did not carry a mandate was more vulnerable in times of fiscal constraint. And, of course, mandates cannot ensure that high-quality information is produced. For example, the National Vocational Education Data System was mandated in 1976, but the information-collection request was disapproved by the Office of Management and Budget a few years later on grounds of severe technical problems. No resources were specially appropriated, reporting schedules proved unrealistic, and the whole plan was mandated with little consultation with the department.

Changes in Leadership and Priorities

Changes in leadership and priorities also affected the production and quality of information in the period we reviewed. Top management changed in each of the information units in the 1980's. The National Institute of Education had a total of seven different directors from 1980 to 1986, three of the seven serving as acting director. At least 16 other persons served in five other top management positions, one of which was created in 1984. NCES and OPBE showed similar patterns. We found examples of major research-funding initiatives under development for some years cancelled by a new director who had different priorities.

The Department's View and Recent Developments

Thus, in 1987, we described a complex situation in which some of the problems such as with statistical reporting systems are longstanding. We told the House authorizing subcommittee in April 1988 that it would be neither quick nor easy to turn the situation around, involving as it does funds, how priorities are set, leadership and staffing, and other factors.[5]

The Department of Education's comments on our draft report in 1987 disagreed, citing many organizational changes since 1985 that the department believed constituted "clear and decisive action to address most of the problems cited in the report" and claiming to have augmented the information portfolio and broadened topical areas. We believed it was too early to claim whether the changes initiated adequately addressed the problems we identified.

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[5] See "Production and Quality of Education Information," statement of Eleanor Chelimsky before the Subcommittee on Select Education, House of Representatives, GAO/T-PEMD-88-4, Washington, D.C., April 20, 1988.

We have not reviewed the situation in detail since then, to gather the fine-grained information we believe is needed to properly evaluate information programs. More important, the department itself, in responding to our review, did not appear to have plans for empirical evaluation of progress in improving education information. The new Assistant Secretary for Educational Research and Improvement has, however, called for an independent review of the department's work in this area, which could offer an opportunity for the kind of evaluation we believe is needed. For example, the kinds of questions we urged be addressed included the areas being investigated, target groups studied, how research agendas are developed, procurement methods employed, balance among priorities such as new data collection versus support services such as dissemination, the match between information-gathering plans and questions posed by a wide range of audiences, and of course the technical quality of sponsored work. Information on these topics can provide a basis for evaluating the decisions that have been made.

Updating several of our analyses of trends in the quantity of education information and in support for information-gathering activity, we found a mixed picture. For example,

-- the downward trend in awards for research and related activities continued, from 168 in 1985 to 79 in 1989, and the proportion of awards representing mandated activities continued to grow;

-- the downward trends in number and overall dollar value of evaluation awards in OPBE from 1980 to 1985 reversed, with increases from 20 in 1986 to 36 in 1988, although these numbers remain small compared to the 84-119 awards made annually from 1975 to 1980;

-- overall resources allocated for evaluation in education (staff as well as contract awards) continue on a downward trend even in current dollars, let alone constant ones, declining from $20.6 million in fiscal year 1984 to $18.2 million in 1988; and finally

-- the downward trend in funding for research and statistics has reversed and appropriations (in current dollars) have risen since 1986, reaching $78.2 million in fiscal year 1989 and a projected $96.4 million (presequestration) for this year, though still substantially below earlier levels in constant dollars.

Thus, in summary, since our last full review, resources continued to decline absolutely, or failed to regain earlier lost purchasing power. Not surprisingly, quantity indicators declined further or grew only slowly towards former levels. Inevitably, therefore, we are gathering much less information than in earlier years despite the large increase in interest in the performance of the nation's education system.

The Role of OMB's Review Procedures

OMB's paperwork review process is a second major influence on education information.[6] This happens in three different ways: the department experienced greater difficulty than most; in general, the types of data needed for research and evaluation were less often approved; and the quality of data to be collected is not assured by OMB's review because the review process is not as strong technically as it could be.

In our recent review of how OMB handled information-collection requests from 1982 to 1987 we found that while approval of agencies' requests is common, the relatively high rate is not applicable to all agencies or all kinds of requests. Of the 211 agencies we reviewed, 117 had approval rates of 95 percent or more in 1985-87, but the Department of Education was less successful. Its overall approval rate was 89 percent for that period (and 86 percent in the prior period, 1982-84).

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[6] See Paperwork Reduction: Mixed Effects on Agency Decision Processes and Data Availability, GAO/PEMD-89-20 (Washington, D.C.: September 7, 1989), and Paperwork Reduction: Little Real Burden Change in Recent Years, GAO/PEMD-89-19FS (Washington, D.C.: June 14, 1989).

The approval rate for the Office of Educational Research and Improvement, which includes both research and statistical activities, was 93 percent for 1985-87. For the Office of Planning, Budget, and Evaluation the rate was 69 percent. In addition, program units of the department such as the offices of Elementary and Secondary, Post-Secondary, and Special Education all had approval rates below the common 95 percent level, with the latter two exhibiting lower approval rates consistently since 1982-84.

Research, evaluation, and statistical information in education may have been especially affected by OMB's review process, as we found across all agencies that that type of information request was approved less frequently than others. New (as opposed to recurrent) data collection requests were less often approved also. Requests which were both new, and centered on research, evaluation, and statistical information, were approved the least often of all. In an active, evolving information-gathering program, that seems just the sort of request likely to predominate.

Our evaluation of OMB's procedures raises cautions about whether the review assures quality. Disapproval of a request might signal a healthy concern for technical quality in data-gathering proposals, but we found that was not the predominant rationale for disapprovals. Nor can approval be taken as a reliable indicator of technical soundness. We found that OMB's paperwork review officers had limited technical training and limited technical guidance. Our independent review of a sample of cases showed some requests OMB approved were technically flawed.

Taken together, these findings suggest that specific education information-collection has been narrowed by OMB's review, and that in general precisely the kinds of information needed on education are especially prone to disapproval--research, evaluations, and statistics. In addition, problems in OMB's own technical review capability highlight the need for strong capacity at the agency level, capacity which is hard to maintain as funds decline, leadership and priorities change, as I noted above.

Local Education Data as a National Resource

Recent discussion of higher goals for education outcomes leads to plans for expanded assessment of how well we are reaching those goals, which in turn puts a spotlight on schools' data. Turning now to my third question -- How far do problems extend with educational information? -- I will conclude with observations from our recent evaluation of the initial effects of education reform in four school districts in four states.[7] In that study, we gained firsthand knowledge of current problems with using local data. We cannot generalize from our experience, and significant effort is being made by officials of the National Center for Education Statistics and nongovernment groups such as the Council of Chief State School Officers to improve data gathered at all levels so that national aggregate figures are increasingly reliable. Still, our experience may hint at the magnitude of the challenge they face.

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[7] See Education Reform: Initial Effects in Four School Districts, GAO/PEMD-89-28 (Washington, D.C.: September 26, 1989).

To evaluate the effects of increased high school graduation requirements on at-risk youths, we planned the first multi-state empirical study to assess achievement and other outcomes. Ruling out use of existing national data or new data collection, we hoped to rely on existing data in school archives. We selected four states that had introduced comparable reforms a few years earlier, so some measurable effects could have occurred. We then searched for districts with adequate data to allow us to compose two panels of students for comparison, one group that was the last class to enter high school under the prereform requirements, and another that was the first to enter under the postreform requirements. To determine the educational effects of the requirements we wanted to know the courses students took each year and their test scores and dropout history. To establish at-risk subgroups for analysis, we looked for data on age (to find students older than the rule for their grade), gender, race, family socioeconomic level, limited-English status where relevant, and prehigh-school test-score history.

In brief, despite the excellent cooperation we received from school districts attempting to meet our admittedly specialized data requests, assembling the needed computer files was much more difficult than we expected, and our evaluation design had to be modified as limitations of the data surfaced, though we willingly paid for overtime programming assistance to merge files to meet our needs. We began working with five urban school districts, one of which, after months of work, finally could not provide usable data in time for the study. (We were unable to find any rural districts with enough experience with education reform, suitable student populations, and computerized data bases holding data we needed.) Within the remaining four school districts, there were numerous problems with the data we used from the records of 61,000 students:

-- limited computerized student background data narrowed our ability to track separate at-risk groups,

-- limited data on dropouts meant we could analyze that outcome only in two districts (which kept track of a dropout registered elsewhere), and

-- limited computerized transcript data made it impossible to track reform effects on courses students took in two of the four districts.

We were, finally, with great difficulty, able to measure effects of the reform, but had to conclude our report by acknowledging some limitations resulting from data problems at the local level. We encouraged additional evaluation to see what was happening with later student groups as educators gained experience in implementing reform. However, in view of the effort we had to make, it is unclear how many others will be in a position to follow our lead.

Observations and Conclusions

Mr. Chairman, I believe this review illustrates some major issues concerning the adequacy of education information.

We are concerned about the kind, quantity, and quality of education information. Despite recent increases, the resources for this function are much lower than they were in earlier years, while demands for data and understanding are increasing. The central review function needs improvement as well. Finally, local data require major efforts to aggregate for analysis, and even then they have many limitations.

Our ability to precisely discuss data and indicators in other sectors such as the economy, or to explore unknown territory with innovative methods that yield color photographs from the moons of Neptune or the bottom of the sea, is not yet matched in our search for understanding of the seemingly mundane and accessible world of schools, teachers, and students. We believe recent developments in the Department of Education move us notably ahead, including specific data improvements and the proposal for a new independent evaluation of the condition of information that would establish a useful updated baseline to measure progress against and set priorities for further effort. Still, our work suggests that sizable further work lies before us if we are to properly assess common schooling, not to mention any new wave of reforms or the world of education beyond the schoolroom.

Table 1

Budget Obligations for Research and Development by Major Department and Agency 1980 and 1987[a]

Department or agency	1980	1987 Current	1987 Constant 1980[b]	Real change 1980-87
Education	$132	$124	$88	−33%
Defense	13,943	36,088	25,236	+81
Agriculture	687	946	671	−2
Commerce	341	405	287	−16
Energy	4,737	4,724	3,350	−29
Health and Human Services	3,790	6,643	4,711	+24
Interior	438	403	286	−35
Transportation	374	322	228	−39
Agency for International Development	119	223	158	+33
Environmental Protection Agency	348	348	247	−29
National Aeronautics and Space Administration	5,084	3,787	2,686	−47
National Science Foundation	888	1,464	1,038	+17
Veterans Administration	133	210	149	+12
All other agencies	669	404	287	−57
Total	**$31,682**	**$56,089**	**$39,424**	**+24%**

[a] Dollars are for fiscal years in millions. Does not include departments or agencies with research and development budget obligations of less than $10 million. Total may not add because of rounding.

[b] Constant 1980 dollars were calculated by using fixed-weighted price indexes for federal government purchase of services in defense or nondefense sectors, as appropriate. Indexes were obtained from the Bureau of Economic Analysis in the Department of Commerce.

Source: Office of Management and Budget, Special Analyses, Budget of the United States Government (Washington, D.C.: 1981), and other data provided by the Office of Management and Budget.

Table 2

Budget Obligations for Research and Development in the Department of Education 1980-87[a]

Fiscal year	Current	Constant 1980[b]
1980	$132	$132
1981	141	127
1982	154	127
1983	103	81
1984	109	83
1985	111	82
1986	117	85
1987	124	88

[a] Dollars are in millions and include research and development only. Table does not include support of facilities.

[b] Constant dollars are calculated by using the fixed-weighted price index for federal nondefense purchase of services other than employee compensation.

Source: The Office of Management Budget and price indexes reported by the Bureau of Economic Analysis in the Department of Commerce.

Table 3

Budget Authority for Major tatistical Units 1980 and 1986[a]

Statistical unit	1980	1986 Current[b]	1986 Constant 1980	Real change 1980-86
Education				
Center for Education Statistics[c]	$14.9	$14.0	$9.9	−34%
Agriculture				
National Agricultural Statistics Service[d]	49.0	57.2	40.3	−18
Commerce				
Census Bureau[e]	53.7	85.8	60.4	+12
Bureau of Economic Analysis[e]	15.8	21.1	14.9	−6
Energy				
Energy Information Administration	90.8	58.9	41.5	−54
Health and Human Services				
National Center for Health Statistics	43.3	48.0	33.8	−22
Justice				
Bureau of Justice Statistics	16.3	19.1	13.4	−18
Labor				
Bureau of Labor Statistics[f]	102.9	129.5	91.2	−11
Total	**$386.7**	**$433.6**	**$305.4**	**−21%**

[a] Dollars are for fiscal years in millions.

[b] Figures for 1986 are administration requests.

[c] Includes program funding, salaries, and expenses from other accounts.

[d] Formerly the Statistical Reporting Service.

[e] Includes current programs only. Does not include transfers from other agencies.

[f] Excludes transfers from other agencies and activities to revise the consumer price index.

Source: U.S. House of Representatives, Committee on Government Operations, *An Update on the Status of Major Federal Statistical Agencies, Fiscal Year 1986* (Washington, D.C.: U.S. Government Printing Office, 1985), p. CRS-6.

Table 4

Fiscal Resources for Evaluation Units in Nondefense Departments 1980 and 1984[a]

Department	1980	1984 Current	1984 Constant 1980[b]	Real change 1980-84
Education	$23.9	$20.6	$15.7	−34%
Agriculture	17.8	24.4	18.6	+4
Energy	4.3	1.2	0.9	−79
Health and Human Services	39.1	28.5	21.8	−44
Housing and Urban Development	11.3	8.0	6.1	−46
Interior	6.3	2.9	2.2	−65
Justice	16.8	4.6	3.5	−79
Labor	20.6	5.9	4.5	−78
State	1.5	4.5	3.4	+127
Transportation	3.6	3.4	2.6	−28
Treasury	2.9	4.7	3.6	+24
Total	**$148.1**	**$108.7**	**$82.9**	**−44%**

[a] Dollars are for fiscal years in millions. Data are based on estimates reported by evaluation units late in each of the 2 fiscal years. Estimates include total resources, regardless of funding source or fiscal year in which funds were obligated. The Department of Commerce is not included because it reported no evaluation units in 1984; fiscal resources for the department's evaluation units in 1980 were reported as $13.0 million. Data from the Department of Defense are not available.

[b] Constant 1980 dollars were calculated by using the fixed-weighted price index for federal government nondefense purchase of services other than employee compensation. This is a more accurate index than the one available for our report entitled Federal Evaluation: Fewer Units, Reduced Resources, Different Studies From 1980, GAO/PEMD-87-9 (Washington, D.C.: January 1987). The difference in results, however, is not large. The total percentage change in fiscal resources presented in that report was −41 percent rather than the −44 percent shown in this table.

Table 5

Education Research and Statistics Budget Requests and Appropriations 1980-88[a]

		Budget estimate to the Congress		Appropriation	
Fiscal year	**Price index**	**Current**	**Constant 1980**	**Current**	**Constant 1980**
1980	1.00	$95.120	$95.120	$84.061	$84.061
1981	1.11	84.061	75.731	74.561	67.172
1982	1.21	62.392	51.564	61.979	51.222
1983	1.27	62.392	49.128	64.203	50.554
1984	1.31	56.978	43.495	56.978	43.495
1985	1.35	62.978	46.650	59.978	44.428
1986	1.37	59.978	43.462	59.978	43.780
1987	1.41	70.231	49.809	63.578	45.091
1988	1.46[b]	70.231	48.103[b]	67.526	46.251[b]

[a] Dollars are in millions.

[b] Estimate.

Source: Department of Education research and statistics fiscal year 1988 budget request; U.S. House of Representatives, Making Further Continuing Appropriations for the Fiscal Year Ending September 30, 1988, conference committee report number 100-498 (Washington, D.C.: U.S. Government Printing Office, 1987); and price indexes supplied by the Bureau of Economic Analysis in the Department of Commerce

Federal Action to Improve the Quality of United States Education Information

A statement by

Gordon M. Ambach
Executive Director
Council of Chief State School Officers

before the

Subcommittee on Government Information and Regulation
Committee on Government Affairs
United States Senate

November 1, 1989

Washington, D.C.

Senator Bingaman and members of the Subcommittee, thank you for the opportunity to testify on federal action necessary to improve the quality of information about education in the United States. I applaud your initiative in convening these hearings. There is a critical need for increased federal commitment to developing the systems of information about education in our nation. The need is not new. The system for collecting nationwide information about education has long been on a starvation diet. The importance of information about student performance, teacher quality, and school indicators is now coming dramatically to the surface. Your hearings can help to focus national attention on the needs.

Throughout the United States the interest in national education goals and nationwide report cards has undergone a sea-change within the past decade. At the Education Summit last month, President Bush and the nation's governors agreed to develop a set of nationwide goals for education in at least seven areas and an annual report card for the nation. A set of national goals requires objectives which are measured by student performance. The concept of a report card relies on information about how the system works, the quality of its teachers, the characteristics of the curriculum, facilities and finances--not only on a national basis, but also on a state-by-state basis. The appetite for this information far exceeds the current capacity to deliver such information. To provide the information will require a substantial strengthening of the federal government's support for education information and assessment.

I have three major points this morning. First is the call for a very substantial increase in federal funding for education statistics and national assessment. I realize that a plea for funds in difficult budget times is not especially welcome. If there is one place, however, where a long-standing case can be made for federal activity in education, it is in educational statistics. The United States Office of Education was established in 1867 to enable the United States Commissioner of Education to prepare annual reports on the status of education in the United States. The responsibility has continued to this day.

The Department of Education budget passed by the Senate and House includes about $40 million for statistics ($25) and National Assessment of Education Progress ($15). This is an increase over Fiscal Year 1989, and that is welcome. But, the numbers for education information must be put in perspective. That federal commitment of $40 million is for information about and assessment of system in which there are nationwide expenditures--local, state, and federal--of about $200 billion this year. The appropriations for education information in Fiscal Year 1989 were $36 million. In contrast the appropriation for health statistics was more than $300 million, for agricultural statistics more than $240 million, and for labor statistics about $225 million.

The Council of Chief State School Officers, in 1984, led the way to push for an increase in the federal budget for education statistics and for the expansion of national assessment for education. We argued then for a United States Department of Education budget for these purposes with a six-fold increase to enable a certain comparability with information about other service areas such as health, agriculture and labor.

In order for the United States to have an adequate education information base of both indicators and student performance results, it will still require increases of that magnitude. The federal government must have substantial trend information for nationwide statistics accompanied by an expansion in the capacity for state-by-state statistics and a capacity to provide better comparisons with other nations on their education systems and the results.

The United States Department of Education has the basic structure to enable a more effective system for collecting and using education information. The development of the National Center for Education Statistics (NCES) and the cooperative statistics programs with the state education agencies are sound. The National Assessment of Education Progress (NAEP), which has been developing over the past 20 years, is a sound system for generating education results. Both desperately need support.

The second point is the necessity for a strong continuing process which cuts across governmental levels--federal, state and local--to guide development of assessments and collection of education information. Our nation has a decentralized education system. The calls for national goals and a nationwide report card have stressed the desirability of maintaining state and local options for setting state and local goals and objectives together with nationwide goals. A strong commitment continues to be placed on the operation of our elementary and secondary schools as the responsibility of state and local education systems.

For many, many years there has been a significant fear of central information about education objectives and results. When NAEP was established in the 1960s, it was purposely designed so there was no comparison of the student results from one state to another. Only nationwide and regional results could be displayed. American attitudes on this issue have significantly changed. Our Council led the way in 1984 to advocate availability of national assessment on a state-by-state basis. Some states began as early as 1984 to use sampling of NAEP assessment in order to be able to relate their state student performance with the nation's. Now the challenge is to integrate national assessment with state and local assessment.

In a decentralized system it is essential that the interests at the school, school district, state, and federal levels are joined to construct assessment and information systems. We have demonstrated this can be done in preparation for NAEP in mathematics in the spring of 1990. Our Council handled the task under contract from the United States Department of Education to develop a concensus on the objectives for that mathematics exam. We are doing the same thing now to set objectives for examinations in reading comprehension in 1992. The careful development of concensus at the three levels of governance is important, first, for credibility and acceptability of the results (does the assessment reliably reflect the level of knowledge and understanding of a subject) and, second, because it is essential to streamline various assessments which occur at the school, school district, state and national levels.

Unless multi-level assessment is advanced, there will be a considerable resistance at expanding the NAEP program. States and localities do not want to abandon current testing programs because they will lose trend data. They want to be able to combine their assessment programs with NAEP and their programs at collecting local and state information with the federal system for information. To assure expansion of nationwide information and assessment, a carefully developed concensus must exist across levels of government. To accomplish this requires a commitment of resources from the federal level to the process of consensus building.

Third, there are many ways in which national education information must be strengthened, including more consistent and comparable statistics about school characteristics, teacher quality, and the curriculum. But, the most important investment to be made at this time at the federal level is expansion of NAEP. The tests of mathematics in 1990 through which we will have the first, extensive, state-by-state results are only for students at the eighth-grade level. Expansion of testing to different age or grade levels and expansion of the subjects in which there will be examinations will cost money as will further research and development on testing techniques for NAEP.

If we are serious about the establishment of national goals and a national report card, however, then it will be essential to make the substantial investment necessary to assure we are measuring the right things.

During the past several years we have had an annual, national ritual with the release of the Department of Education "Wall Chart". It is a prime example of the results of a long-term, starvation budget for education statistics and assessment. The wall chart displays information for the nation and state-by-state. It was not created as a report card on national goals or objectives but rather as a display card of the only three "outcomes" the Department could find available on a state-by-state basis: one is average SAT or ACT scores; the second is the percentage of students retained from grades nine through twelve; the third is the percentage of students who take advanced placement exams. No one is satisfied that those three indicators are a satisfactory measure of results of American education. They are used year after year solely because they are the only measures available.

One of the most significant results of the Education Summit would be an immediate replacement of the wall chart with a design for a legitimate, nationwide report card related to agreed upon national education goals and a commitment to provide the federal resources to build an effective national education information system. Your support in that objective is extremely important.

Mr. Chairman and members of the Subcommittee, thank you once again for this opportunity. I would be pleased to respond to questions.

Statement of

George E. Hall
President, Slater Hall Information Products

to the
Subcommittee on Government Information and Regulation
Committee on Govermental Affairs
United States Senate

November 1, 1989

I appreciate the opportunity to appear before this subcommittee to discuss the quality of education statistics, to briefly review recent history and more importantly to look at the future at this time of exciting change in American education.

Although several Federal agencies produce data related to American education, I am going to focus primarily on the National Center for Education Statistics (NCES).

I have been a close observer of NCES for many years. My first association with the center was in the mid 1960s while I was working at the Bureau of the Census. Subsequent to that, in the mid to latter part of the 1970s, I had general oversight of the Center's programs when I was responsible for Federal social statistics programs at the Office of Management and Budget. My next opportunity for a close look at the Center involved the preparation of a report for the Congressional Research Service after I had left the Federal government. This report, entitled The Federal Statistical System 1980 to 1985 , included a chapter on the NCES which I helped to prepare. More recently I was fortunate to have been involved with several distinguished scholars in an NCES contract which resulted in the report A National Data System on Elementary and Secondary Education. Finally from 1985 until September 30 of this year I had the distinct pleasure of serving on the Department of Education's Advisory Council on Education Statistics. During this period I watched -- and I hope that I contributed in some small way-- as the National Center for Education Statistics changed from a small statistical agency with products of highly variable quality and coverage to one of the more exciting agencies in the Federal statistical system.

It is instructive to examine some recent history to place my comments in the proper context. In the 1970's when I was at OMB I realized that NCES was seriously underfunded in comparison with the other general purpose statistical agencies. There was a further serious decline in resources in the early 1980's. The Federal Statistical System 1980 to 1985 reported "The budget of the National Center for Education Statistics decreased from $14.9 million in FY 1980 to a projected $14.2 in FY 1985. When adjusted for inflation, the decrease from FY 1980 to FY 1984 was 28%." The report continues "From 1980 to 1985 the number of full time equivalent employees decreased from 173 to 125, or 27.7 percent". It is small wonder that the performance of the agency was lackluster.

A review by the National Academy of Sciences, requested by the Department of Education in 1984, found serious problems with the Center's overall program, including timeliness and data quality. The Academy concluded that "without strong and continuous commitment ... to change both the image and reality of the center ... serious consideration should be given ... to abolishing the center ...". While the National Academy review was underway the new Administrator of NCES, with the support of the Department of Education, began to take steps to turn the agency around. By the time the Academy reoprt was actually published in 1986, significant improvements had begun to be made. Important program improvements continue today. These improvements in program quality occured at the same time as significant increases in resources were finally received by the center. Nevertheless the center still faces long range problems

In my years on the Advisory Council, I watched with concern as the NCES was stretched to what I thought was its limit, in terms of its capacity to fulfill increasing demands on its available resources. I felt that the Center should work harder to set priorities and identify programs that were essential to its mission. I still have these concerns. The Center has two types of problems. The first is a cry you hear, I know, from many quarters -- insufficient resources, both financial and human. This is true for this agency, as their program has expanded so greatly in recent years. While their budget has tripled and the amount of information it collects and disseminates has increased far more than that, its staff has increased by only about 20 percent. This is in part a peculiarity of the budgeting process at the Department of Education, where funds for salaries and expenses do not necessarily accompany program dollars.

The second resource problem, not entirely unrelated to the first, is that the mix of staff at NCES is not entirely appropriate to the tasks assigned it. As higher standards have been applied to the content and quality of the agency's programs, they have not been able to shift the staff to assure adequate support for those goals. So part of the needed staff expansion would of necessity involve a change in the mix of various sorts of technical, substantive, and administrative personnel. My personal observation, after having worked throughout the statistical system and then served as a advisor to NCES is that these problems are probably more serious there than at any other statistical agency.

Over the last several years there has been a sea change in the national concern for education and hence in the interest and demands for education statistics. This trend began with the publication of A Nation at Risk. The recent education summit will, undoubtedly, again increase the demand for data to an extent that no one would have guessed even six months ago. This presents the center with both an opportunity and challange along with serious dangers.

The Presidential summit has identified seven important goal areas. The governors and the Administration are now expected to proceed to develop precise goals, for which information will be required to monitor progress towards attainment. The education summit stressed measurable accountability. In Charlottsville the the governors said in their report:

> As elected chief executives, we expect to be held accountable for progress in meeting the new national goals and we expect to hold others accountable as well. When goals are set and strategies for achieving them are adopted, we must establish clear measures of performance and then issue annual Report Cards on the progress of students, schools, the states, and the Federal Government.

The President strongly endorsed these sentiments.

Assuming that the statements made at the summit are to be taken seriously as a guide to action, many statistical issues arise. First, the levels within the system that will be held accountable for attaining the goals to be established by the governors are not yet known. The resource implications of these decisions could be staggering. Two of the center's programs are now aiming to provide data to permit state to state comparisons, the School and Staffing Survey and the National Assessment of Educational Progress (NAEP). These are both fine programs, but what would happen if you tried to expand them to support accountability measures at some lower level within the system? Let us assume for a moment that one wanted to expand NAEP to be able to compare school districts as well as states. A rough statistical rule of thumb suggests that you would need as large a sample in each school district as you have now in each state. Given the more than 15,000 school districts, such an undertaking would be excessively costly.

If the governors are to be taken literally about levels of responsibility down to the school level, some method other than national sample survey collections will have to be used to provide the necessary data. However, the Federal government has some clearly identified roles to play with respect to this issue. When information is needed at the national level, the responsibility is for the Federal government to collect the data. But the mandate for NCES also includes working with the States to develop consistent data elements and definitions, to allow for comparable data at the state level. A responsiblity of the States is to work with localities to develop comparable data and definitions for those areas, to support State data needs. The Federal government provides leadership and coordination in all these data efforts, but it is not necessary that NCES always collect all the data required; some of the responsibility for that is best left in the hands of the States. I would suggest that it will be easier to determine the most appropriate sharing of responsibilities when the goals are clarified.

I hope that the groups managing the summit process of defining specific goals will use the Center and other Federal statistical agencies as appropriate, as resources to help articulate specific goals which can be measured reasonably.

A moment to speak again of data quality. As I mentioned earlier, NCES has only recently begun to recover from years of resource deprivation and problems with data quality and timeliness. In the coming months and years I am afraid that there will be pressure on NCES to take shortcuts or sacrifice data quality, in the interests of producing more data, faster, on a broader variety of topics. I respectfully submit that this will occur at a cost of quality and importance (or relevance) of the data. The data needs, to monitor progress towards the goals stemming from the summit, will not go away. They will require ongoing programs of surveys, to provide repeated measures on the same topics, year after year. If such programs are hastily designed or executed, the Center will suffer. And so will the policymakers who use the data.

It is true, as many have noted, that other organziations can produce data faster -- much faster. But look at the data they produce. They are seldom of high quality, and do not stand up to much analysis. They almost never provide detailed information about specific groups in the population that this Congress is most concerned with -- minorities, the disadvantaged, or specific age cohorts, for example. They are sparse in their content coverage. These kinds of data do not support policy analysis, and policy based on bad data is indeed sometimes worse than policy based on no data at all. If NCES is to be in this game for a long time -- and I surely hope it is --then it must have the time to develop data systems of high quality and enduring relevance to the public policy process.

This is not to suggest that those who request data are not interested in the highest quality, but only to suggest that many concerned people are unaware of the time and resources required to produce valid and reliable data.

Let me give you a couple of examples of data problems the Center has faced in recent survey efforts which illustrate this point.

Many of the problems with the Center's attempts to describe the entire education system arise because of the difficulty of getting responses from schools in the private sector. Private schools at the elementary and secondary level and proprietary schools offering postsecondary education respond at a much lower rate to the Center's surveys than do schools in the public sector. This makes it difficult to document the contributions of private schools to the education system at the elementary and secondary level, and nearly impossible to produce valid statistics on vocational education, adult education in the area of career change, and other key indicators.

A different kind of problem involved a survey designed to measure the amount of and impact of student financial aid at the postsecondary level. This survey was designed to sample students at the one time of the year, October, which gave very good coverage of most students and allowed the survey to be done with consistent definitions and on a reasonable schedule. But some users of the data wanted to have all students who received financial aid sampled, which meant that sampling would have to be conducted year round, especially in proprietary schools. Thus to satisfy the expectations of all users the data would have become considerably more expensive and could not have been as timely, given that an entire year would have been required for data collection.

These are the kinds of issues of which data users are not generally aware but with which the statistical agency must deal on a daily basis. The development of data for the universe of educational experience is exceptionally difficult. The experiences with responses from private schools indicates how difficult and time consuming it is to build a solid statistical series. It also was not too long ago that, for a number of reasons, it was difficult to obtain cooperation from the public schools. In the other example we find that the traditional post-secondary October enrollment data became insufficient when interest expanded about non-collegiate education and training. The year round enrollment practices of the non-traditional schools placed a strain on the statistical agencies concerning both methodology and timeliness.

I believe that the center has been working diligently and effectively for the last several years to solve these kinds of difficult data collection problems, and I believe that it will continue to do so in the future. But a degree of cooperation is going to have to continue between the Administration, the Congress, and the Department to assure that the important work of this agency is fully supported.

Mr. Chairman, in your letter of invitation, you asked about the national education information collection systems. As I mentioned in my opening remarks Federal agencies, other than NCES, also have a role to play in the production of education data. The Census Bureau provides critical baseline data from the decennial census. With the support of NCES it also collects important data in its current programs. Questions concerning the supply of qualified teachers, viewed broadly, may also be addressed by data provided by the Census Bureau. The Census of Governments provides useful information on education expenditures compared to other government functions.

The summit also included in its list of goal areas "safe, disciplined, drug free schools". The Bureau of Justice Statistics clearly has a roll here; in fact I understand that BJS has scheduled a supplement to the National Crime Survey relating to crime in schools.

The goal area concerning training level for a "competitive" work force must involve the Bureau of Labor Statistics which already produces national productivity measures.

Many of the problems resulting from increasing demands will be felt by these specific agencies and indeed by the entire statistical system.

NCES has by statute, the lead role of collecting statistics at the Federal level and working in cooperation with the states in developing consistant sub-national statistics and that is how it should be. There needs to be coordination between the Federal agencies producing related education data. Ordinarily this kind of coordination would be the role of The Office of Management and Budget. Absent providing additional resources to OMB's statistical policy area, I think that it would be useful for NCES to organize an interagency committee to perform this valuable coordination function.

THE WHITE HOUSE

Office of the Press Secretary
(Charlottesville, Virginia)

For Immediate Release September 28, 1989

REMARKS BY THE PRESIDENT, GOVERNOR GERALD BALILES, GOVERNOR TERRY BRANSTAD AND SECRETARY LAURO CAVAZOS DURING UNIVERSITY CONVOCATION

The University of Virginia
Charlottesville, Virginia

11:56 A.M. EDT

GOVERNOR BALILES: Mr. President, ladies and gentlemen, as you may have noticed during the course of this unprecedented education summit, Virginia law and tradition oblige us to publicly envoke the name of Thomas Jefferson at least once or twice an hour. (Laughter and applause.) There are worse habits.

Mr. President, it has been an interesting -- sometimes provocative -- gathering. You asked the governors to be candid, and I think we've fulfilled that request -- perhaps beyond your fondest hopes. (Laughter.) I would also say, however, that you gave as good as you got. But these are times for candor and outspoken self-examination. These are times for us to open our eyes and our minds and face the facts. The world has changed more than we sometimes would prefer. The challenges, both internally and externally, are profound and difficult. And, frankly, we have not made it easy for ourselves.

Within the last decade, immense federal budget deficits have accumulated with resulting declines in domestic spending, including education. We need not assign blame, but we ought to acknowledge that the federal budget situation has left the states increasingly on their own to address not only education, but also health care, transportation, law enforcement and other pressing concerns.

Indeed, the federal budget deficits have been the backdrop to the education summit stage. The federal deficits confine our flexibility, limit our options, and explain our shared reluctance to discuss financial resources. To be sure, in recent years the states have stepped into the breach. Imaginative and innovative programs have been created and funded by governors and state legislators determined not to let the red ink in Washington inhibit the potential of our people in their enterprise.

But has it been enough? Has the renaissance of state governments yielded a renewed competitive America? The evidence says no. Indeed, it may be said of the American federal system of government that the whole remains less than the sum of the parts. Education is one example, but not the only one. In other words, if we are to take on education as a nation, we had better get all the parts in accord and pulling together. And you, Mr. President, have taken a valuable and important step in that direction.

Up to this point, Mr. Jefferson's preference for locally-administered education has prevailed. We will not depart from that model entirely. States and localities will continue to provide more than 90 percent of the funding and the preponderance of the direction and supervision.

And yet, there is a federal role to be more clearly defined, supported and sustained. In response to international economic competition, a consensus has emerged for an American national resolve. The Jeffersonian belief that education is the first, best hope for our Republic's enduring success has not diminished. We have simply discovered that, as the times change, so must our ideas.

That may be the finest result of this education summit that we have begun. State and federal governments together, to think anew our respective roles and to address education for the first time as a nation undivided.

Mr. President, you have a loyal ally to support your efforts in the person of the new Chairman of the National Governors Association. It is my pleasure to introduce my friend and the distinguished Governor of the State of Iowa, Terry Branstad. (Applause.)

GOVERNOR BRANSTAD: Thank you, Governor Baliles. Mr. President, First Lady Barbara Bush, members of the Cabinet, fellow governors and their spouses, President O'Neil and Mrs. O'Neil, and members of the University of Virginia community: It is indeed appropriate that this education summit be held here amidst this historic setting. On behalf of the governors and their spouses we want to thank the faculty, administration and students for hosting us here at this beautiful University of Virginia campus. And I hope we haven't disrupted your class schedules too much the last couple of days. (Laughter.)

With this historic education summit, the President and the governors have taken an important first step in the process of developing for the first time a national consensus for educational goals. We are discussing some of the most critical issues facing America today -- that is, the state of education. Our discussions underscore the breadth and depth and the complexity of the issues that we face. We believe that this summit can serve as a catalyst for change and improvement in American education.

But we know that we can't do it alone. Not even the President of the United States and the Congress, each governor and their legislature can cause the kind of changes that we want. We have to have the involvement of the people who are directly affected; the people who can assure that we get results for America's children.

These are the teachers, the parents, local school administrators and school board members. Students, business leaders, leaders in their communities. People who care deeply about American education. Only with the commitment of all of these people and with their cooperation and help can we be successful in attaining the goals that we hope to agree upon.

Governors recognize that this is a time for results. We are working hard to achieve results in our states. Results like better student performances on math, science and foreign language tests; lower dropout rates and higher graduation rates; improved adult literacy; skilled and productive workers for the jobs of the 21st century.

To get the results we want, we have to hold our education system accountable and give educators the flexibility they need to do their job. It is time to find new measures of performance based on what students know and what students can do; not just the number of classes that they complete in high school or college. It is time for more flexibility in the use of federal dollars. And better coordination and cooperation among all levels of government and the different agencies of the federal government and state governments.

We need to better serve the needs of American families and American schools.

On behalf of the nation's governors, we thank you, Mr. President, for convening this historic summit, for the process that you have started and for our opportunity to help achieve significant goals that will get results for future generations of Americans.

And now I have the privilege of introducing the Secretary of Education for the United States. Lauro Cavazos was appointed by President Reagan in 1988 as U.S. Secretary of Education. He was confirmed unanimously by the United States Senate, and before that, he had a distinguished career as President of Texas Tech University. And I'm pleased to say, he also has a PH.D. from Iowa State.

Lauro Cavazos, Secretary of Education. (Applause.)

SECRETARY CAVAZOS: Thank you, Governor. Thank you. Thank you, ladies and gentlemen. It's my distinct pleasure to be here today as we continue this historic education summit. The decisions we make will affect the lives of millions of children in the United States, and it is for those children and the future of this country that we are here.

President Bush has pledged his support for education and the need to restructure our educational system, and it is an honor now for me to introduce the President of the United States, George Bush. (Applause.)

THE PRESIDENT: Thank you all very much. Thank you Secretary Cavazos. Thank you governors. Thank you, Dr. Cavazos -- Secretary Cavazos. First, my respects to all the governors here, and I want to thank the music of that Air Force Band. Just lovely. Thank you for your performance. (Applause.) I want to thank Governor Baliles and Governor Branstad and so many others who had a very special role.

I want to thank President O'Neil and Mrs. O'Neil. It was only yesterday that I discovered that we had evicted them from the President's house. (Laughter.) And not only did they go peacefully, but they left me this necktie from Eljo's, which I'm sure some of you may recognize. (Applause.) You talk about Virginia hospitality. (Laughter.)

And I also want to pay my respects to the students and especially to the distinguished faculty of this great institution. (Applause.)

And for Barbara and me it's a delight to be back in Charlottesville. Imagine this -- you have a President, the Cabinet, America's governors all visiting your school. And the big man on the campus -- still Sean Moore. (Laughter and applause.) But, you see, we're somewhat familiar. Our son Marvin and our daughter-in-law Margaret, having gone here, both advising me to be humble while I'm at U. Hall. You see, they told me you only do the wave for Ralph Sampson. (Laughter.)

Now, it's easy to keep your perspective and be humble at a school so rich in history and in educational endeavor. And I've also been deeply impressed by the commitment, the creativity and the knowledge that my fellow chief executives bring here to this education reform agenda. In our meetings yesterday, I learned exactly how much you care about the children of your states and the future. And in short, I came to Charlottesville with high expectations, and I've got to say, you have exceeded them.

So the spirit of our summit is not: "Who will get the credit?" The spirit of this summit is: "How can we get results?" We are here to put progress before partisanship, the future before the moment, and our children before ourselves.

I've heard eloquent advice from many of you, and from so many others, in the last few weeks. And I've listened, and I am deeply appreciative of all that I have learned.

But I've also learned that we should listen to our children. And they have much to tell us. In many ways, they are the luckiest generation in history. Just last month, our children observed, in the clarity of Voyager's sight, the horizons of new worlds, the majesty of space. And think what these images would have meant to the ever-curious founder of this university, who could only look through a primitive telescope at faint patches of light and wonder.

But our children are growing up in an age where wonder is commonplace, peace and prosperity often taken for granted. And our children are also the beneficiaries of a nation that lavishes unsurpassed resources on their schooling. So in many ways, we're close to fulfilling the Enlightenment dream of universal education, a dream that became a reality in the shadows of the Shenandoahs here at Mr. Jefferson's school.

And every step we take at this university is truly a walk in Thomas Jefferson's footsteps. When he first charted the ground on which we gather today, there was just a field of grass, a horizon limited only by the Blue Mountains beyond. But Jefferson surveyed a horizon that no one else could see. He saw the graceful dome of the Rotunda, the elegance of the Lawn and its pavilions. He saw meeting rooms and libraries and lecture halls teeming with professors, students yet unborn.

Jefferson set out to fashion his rarified vision into solid reality, brick by brick, book by book. And it is his University — and his dream — that inspires us today to follow in his footsteps.

As President O'Neil said, Thomas Jefferson, our first education president, was a relentless advocate for universal public education. "He had a fundmental conviction that on the good sense of an educated citizenry, we could build and defend a country of liberty and justice."

I borrowed those words — this assessment — from a friend of mine — another Renaissance man of our time — the late Bartlett Giamatti.

Like Jefferson, his life was a metaphor for civility and public service. And it is this commitment to public service that we must carry on. So let us make this an education society.

We have already come close to this Jeffersonian ideal. Our educational system is, in many ways, unrivaled in its scale and its diversity; in its commitment to meeting special needs and individual differences. And we're inspired by our best teachers, who give more than we can rightly expect; and from our best students, who surpass our highest expectations.

And yet, after two centuries of progress, we are stagnant. While millions of Americans read for pleasure, millions of others don't read at all. And while millions go to college, millions may never graduate from high school.

The National Assessment of Educational Progress estimates that fewer than one in four of our high school juniors can write an adequate, persuasive letter. And only half can manage decimals, fractions and percentages. And barely one in three can locate the Civil War in the correct half-century. No modern nation can long afford to allow so many of its sons and daughters to emerge into adulthood ignorant and unskilled. The status quo is a guarantee of mediocrity, social decay and national decline.

Education is our most enduring legacy, vital to everything that we are and can become. And come the next century --

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just 10 years away — what will we be? Will we be the children of the enlightenment, or its orphans?

Six years ago, the Committee on Excellence in Education issued its powerful report; and yet today, our nation is still at risk. The educational reform movement has done well in articulating its criticisms. And now it is time to define goals. This is the time for action.

I sent my proposals for federal action in education to Congress last spring, including an increase in funding for Head Start. The Educational Excellence Act of 1989 includes ways to reshape and expand federal efforts, to recognize excellence, lift the needy, foster flexibility and choice, and measure and reward progress. I remain solidly committed to these principles and I value your advice and ideas as we continue to refine the federal role.

Some offer a completely different answer — spend more money alone. And at the federal level, we have asked Congress to provide nearly a half a billion dollars in new funding for 10 worthy programs. Your states may also choose to spend more. But to those who say that money alone is the answer, I say that there is no one answer. If anything, hard experience teaches that we are simply not getting our money's worth in education. Our focus must no longer be on resources. It must be on results.

And this is only the third time in our 200 years as a nation that a President has called a summit with the governors. And I've called you together because you bear the constitutional responsibility for education. And I didn't ask you to such an historic occasion merely to bemoan what is wrong. We are here to work; and work together; to once again make an American education the best in the world. (Applause.) And let me say to the governors before this majestic audience, these sessions have been informative and thoughtful and very useful to me. And I appreciate the obvious extensive preparations that the governors have undertaken in the days and weeks leading up to this summit. The governors have emphasized to me the need for national performance goals and the importance of greater flexibility in the use of federal funds, while accepting enhanced accountability for the results.

And they've also stressed the high priority that helping prepare preschool children should have in federal spending even in time of fiscal constraint.

And finally, the governors have articulated eloquently the need to restructure our education system. You already are consulting with state legislators to better our schools. Our teachers already are giving their heart and soul to their jobs. But we've never before worked together — President and principal, governor and teacher — to achieve results in education.

A social compact begins today in Charlottesville, Virginia — a compact between parents, teachers, principals, superintendents, state legislators, governors and the administration. Our compact is founded not on promises, but on challenges — each one a radical departure from tradition.

I hope that you will join me, to define national goals in education for the first time. From this day forward, let us be an America of tougher standards, of higher goals and a land of bigger dreams. (Applause.)

Our goals must be national, not federal. That's why I welcome the initiatives of the National Governors Association, from the Time for Results report in 1986, to the goal-setting project recently begun under the leadership of Iowa's Terry Branstad, South Carolina's Carroll Campbell, Washington's Booth Gardner, Bill Clinton of Arkansas. And my administration will work with you to build on the National Assessment Program's first state-by-state achievement

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results. We will work with you to formulate national goals. And then we're going to challenge superintendents and principals to meet these higher goals.

In return, I accept your challenge and will work with you to loosen the grip of federal restrictions. How many great ideas, how many grand and noble experiments, have been impaled on the narrow spike of a federal directive? Unnecessary restriction is the enemy of the bold. And bold action is what we need most of all. (Applause.)

I ask Congress to allow Washington to be more flexible by passing reform legislation. And I ask you, in turn, to ease state restrictions on local bodies. And then we'll judge our efforts not by our intentions, but by our results.

So to get results, we need national goals and more flexibility from federal and state government. To get results, we will need a new spirit of competition between students, between teachers and between schools — a report card for all. And to get results, we will need discipline, structure and goals.

And yet I do not counsel a naive nostalgia, some tame adherence to the past. Business as usual is not getting us where we need to go. So when hallowed tradition proves to be hollow convention, then we must shatter tradition. The polls show what every PTA board member already knows — the American people are ready for radical reforms. We must not disappoint them. (Applause.)

For myself, I envision tradition-shattering reform in five areas.

First, I see the day when every student is literate. But literacy should mean more than the "three Rs." We must be a reading nation. We must grapple with the hard sciences. And because education is as spiritual as it is practical, our children must know why Americans died at Bunker Hill, at Gettysburg and at Monte Cassino. And they must do more than identify names on a multiple choice question. They must understand the generosity of Andrew Carnegie and the genius of Alexander Graham Bell and the heroism of Rosa Parks.

Some youngsters will naturally take longer than others. And some will need more study and extra instruction. But we should never send a student from school to school just because he or she has passed an arbitrary birthday. (Applause.)

Second, I see a day when our educational system will be unafraid of diversity. Of course, all schools in a state will share a core curriculum and minimum standards of achievement. But the means by which that curriculum is taught and those goals met should be as diverse and varied as America itself. Let them blend, in myriad ways, the traditional and the modern, the human and the technological. Let us give our schools and our teachers the freedom to do what they do best.

Children also differ — in their interests and learning styles and capabilities. And so, third, I see the day when choice among schools will be the norm rather than the exception — (applause) — when parents will be full partners in the education of their children.

Too many parents have come to see education as a service we can hand over to the school boards, in much the same way we expect our cities to provide electricity or water. But education is not a utility, not something to be delegated. Education is a way of life. And educational reform is an urgent responsibility for every parent, every student, every community. And those who do not advance the cause of education hinder it. Parents, students and professional educators must be accountable to one another as a community.

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But to be accountable, we need to know just how much progress we're making. So, fourth, I see the day when we use accurate assessments, carefully linked to our educational goals. We need to first know where we are. And this means accepting the bad news along with the good. We've always measured our progress against our past performance. We must now evaluate ourselves on a tougher grading curve -- one that includes the other major industrial nations. (Applause.)

And accountability also means we must act on what we discover. Weak performance in the classroom or the principal's office will no longer be tolerated. But neither will indifference towards good educators. Society has no greater benefactors than outstanding teachers and principals. (Applause.) And so, let them have their day in the sun, get what they deserve -- generous praise and solid rewards. (Applause.)

Fifth, I see an educational system that never settles for the minimum, in academics or in behavior. Decades of research bear out what the best teachers already know -- when standard and expectations are high, everyone does better. And this includes both the unusually gifted and those with special needs and disabilities. But it must also include the student we too often forget, the average student. (Applause.) All you guys with C's, I want to hear it from you. (Applause.) For I do believe that with a little care and a little work we can unleash within each of these so-called ordinary kids an extraordinary potential.

This same potential can be found within every disadvantged child, those from troubled neighborhoods, children for whom our schools must be a beacon of excellence, a sanctuary from violence, a model of good character, sound values, exemplary ethics. Let no child in America be forgotten or forsaken. (Applause.)

Some of our reforms and experiments are sure to come up short. But for too many of our schools, experimentation is preferable to the status quo, because the status quo could scarcely be worse. The worthy and the useful will win out only if we give our schools the freedom that they need.

And such freedom will not lead to a quick and easy solution. It's the work of years. And we've taken such a long-term view in our meetings over the last couple of days.

We've discussed the need for educational reform in terms of our national competitiveness -- you heard Governor Baliles refer to that just a minute ago. But I'm sure you agree that there is more to learning than just our trade balance or the graying of our work force; it is broader than the important, but narrow, compass of economics and government.

A scholar once wrote that great books are not lifeless paper, but minds alive on the shelves. And he observed that just as the touch of a button on a stereo will fill a room with music, so by taking down one of these volumes and opening it, one can call into range the voice of a man far distant in time and space and hear him speak, mind to mind, heart to heart.

As a nation, we can again hear these voices, feel this enchantment -- every time a parent reads a bedtime story to a sleepy child; every time a young scholar turns to the great books. The day must come when every young American can know the life of the mind. (Applause.)

I might say parenthetically that is why my wife, Barbara, for many years, has devoted a lot of her time to making this country more literate. (Applause.)

In essence, that is why we've gathered here at Mr.

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Jefferson's school. He was just one man, but look at what one man can do. Imagine what we can do, if we -- more than 50 strong -- are united by this great cause. So let us dream. And let us talk. And if need be, let us argue. But in the end, let us walk together on a journey to enlightenment, in the footsteps of Thomas Jefferson.

Thank you for your hard work and dedication. God bless you. And God bless the United States of America. (Applause.)

END 12:28 P.M. EDT

NYT 10/1/89

'A Jeffersonian Compact'

The Statement by the President and Governors

AT the end of the education conference last week at the University of Virginia, President Bush and the country's governors issued what they called "a Jeffersonian compact to enlighten our children and the children of generations to come." Declaring that "the time for rhetoric is past," they issued this statement.

The President and the nation's Governors agree that a better educated citizenry is the key to the continued growth and prosperity of the United States. Education has historically been, and should remain, a state responsibility and a local function, which works best when there is also strong parental involvement in the schools. And, as a nation we must have an educated work force, second to none, in order to succeed in an increasingly competitive world economy.

Education has always been important, but never this important because the stakes have changed: Our competitors for opportunity are also working to educate their people. As they continue to improve, they make the future a moving target. We believe that the time has come, for the first time in U.S. history, to establish clear, national performance goals, goals that will make us internationally competitive.

The President and the nation's Governors have agreed at this summit:

- to establish a process for setting national education goals;
- to seek greater flexibility and enhanced accountability in the use of Federal resources to meet the goals, through both regulatory and legislative changes;
- to undertake a major state-by-state effort to restructure our education system; and
- to report annually on progress in achieving our goals.

This agreement represents the first step in a long-term commitment to reorient the education system and to marshal widespread support for the needed reforms.

National Education Goals

The first step in restructuring our education system is to build a broad-based consensus around a defined set of national education goals. The National Governor's Association Task Force on Education will work with the President's designees to recommend goals to the President and the nation's Governors. The process to develop the goals will involve teachers, parents, local school administrators, school board members, elected officials, business and labor communities, and the public at large. The overriding objective is to develop an ambitious, realistic set of performance goals that reflect the views of those with a stake in the performance of our education system. To succeed we need a common understanding and a common mission. National goals will allow us to plan effectively, to set priorities, and to establish clear lines of accountability and authority. These goals will lead to the development of detailed strategies that will allow us to meet these objectives.

The process for establishing these goals should be completed and the goals announced in early 1990.

By performance we mean goals that will, if achieved, guarantee that we are internationailly competitive, such as goals related to:

- the readiness of children to start school;
- the performance of students on international achievement tests, especially in math and science;
- the reduction of the dropout rate and the improvement of academic performance, especially among at-risk students;
- the functional literacy of adult Americans;
- the level of training necessary to guarantee a competitive workforce;
- the supply of qualified teachers and up-to-date technology; and
- the establishment of safe, disciplined, and drug-free schools.

The Federal-State Partnership

Flexibility and Accountability

The President and the Governors are committed to achieving the maximum return possible from our investments in the nation's education system. We define maximum return as the following: significant and sustained educational improvement for all children. Nothing less will meet the nation's needs for a strong, competitive work force; nothing less will meet our children's needs for successful citizenship and economic opportunity.

Federal funds, which represent only a small part of total education spending, are directed particularly toward services for young people most at risk. Federal laws and regulations control where and for whom states and localities spend this money. State and local laws and regualtions control what is taught, and how, for all students.

At present, neither Federal nor state and local laws and regulations focus sufficiently on results, or on real educational improvement for all children. Federal and state executives need authority to waive statutory and regulatory provisions in return for greater accountability for results.

The President and the Governors ha agreed:

- to examine Federal regulations und current law and to move in the direction greater flexibility;
- to take parallel steps in each state wi respect to state laws and administrati rules;
- to submit legislation to Congress ea next year that would provide state and lo recipients greater flexibility in the use Federal funds, in return for firm comm ments to improved levels of education a skill training.

The President and the Governors ha agreed to establish a working group of Go ernors and the President's designees to beg work immediately to accomplish these task

We know that other voices need to be hea in this discussion — voices of educators, pa ents, and those whose primary interest is th protection of the disadvantaged, minoriti and the handicapped. We need to work wi the Congress. The processes we will set immediately following this conference w involve all parties.

The urgent need for flexibility in using Fe eral funds can best be illustrated by a few e amples.

First, the Federal Vocational Educati Act, which mandates specific set-asides th often result in individual awards that are t small to be meaningful and that prohibit t money from being spent to achieve its pu pose. One state reported being required to vide $300,000 in aid among far too many ca gories and set-asides.

Second, similarly, the Chapter 1 progr requires that equipment purchased to p vide remedial education sevices cannot used for non-Chapter 1 institutions in are such as adult education. Several states port that large numbers of computers pu chased by Federal funds are idle at nig while adult education classes that need th either do without or use scarce tax dollars buy other equipment.

Third, the requirements that children w benefit from Federal funds for compensato and special education be taught separat often undermines their achievement. Wa ers that permit these students to return regular classes and receive extra help ha produced large increases in their test scor This option should be available for all sch districts.

These commitments are historic steps ward ensuring that young people with greatest needs receive the best our scho and training programs can give them, a that all children reach their highest educ tional potential. In a phrase, we want to sw red tape for results.

Federal Government's Financial Role

State and local governments provide more that 90 percent of education funding. They should continue to bear that lion's share of the load. The Federal financial role is limited and has even declined, but it is still important. That role is:

- to promote national education equity by helping our poor children get off to a good start in school, giving disadvantaged and handicapped children extra help to assist them in their school years, ensuring accessibility to a college education, and preparing the workforce for jobs;
- and second, to provide research and development for programs that work, good information on the real performance of students, schools, and states, and assistance in replicating successful state and local initiatives all across the United States.

We understand the limits imposed on new spending by the Federal deficit and the budget process. However, we urge that priority for any further funding increases be given to prepare young children to succeed in school. This is consistent with the President's recommendation for an increase in the number of children served by Head Start in this year's budget. If we are ever to develop a system that ensures that our children are healthy and succeed in school, the Federal Government will have to play a leading role.

Further, we urge that the Congress not impose new Federal mandates that are unrelated to children, but that require states to spend state tax money that could otherwise go to education.

Commitment to Restructuring

Virtually every state has subsantially increased its investment in education, increased standards and improved learning. Real gains have occurred. However, we still have a long way to go. We must make dramatic improvements in our education system. This cannot be done without a genuine, national, bipartisan commitment to excellence and without a willingness to dramatically alter our system of education.

The President and the nation's Governors agree that significant steps must be taken to restructure education in all states. We share the view that simply more of the same will not achieve the results we need. We must find ways to deploy the resources we commit to education more effectively. A similar process has been going on in American manufacturing industry over the last decade with astonishing results: an increase in productivity of nearly 4 percent a year.

There are many promising new ideas and strategies for restructuring education. These include greater choice for parents and students, greater authority and accountability for teachers and principals, alternative verification programs for teachers, and programs that systematically reward excellence and performance. Most successful restructuring efforts seem to have certain common characteristics:

- a system of accountability that focuses on results, rather than on compliance with rules and regulations;
- decentralization of authority and decision-making responsibility to the school site, so that educators are empowered to determine the means for achieving the goals and to be held accountable for accomplishing them;
- a rigorous program of instruction designed to ensure that every child can acquire the knowledge and skills required in an economy in which our citizens must be able to think for a living;
- an education system that develops first-rate teachers and creates a professional environment that provides real rewards for success with students, real consequences for failure, and the tools and flexibility required to get the job done; and
- active, sustained parental and business community involvement.

Restructuring efforts are now under way in many states. The nation's Governors are committed to a major restructuring effort in every state. The Governors will give this task high priority and will report on their progress in one year.

Assuring Accountability

As elected chief executives, we expect to be held accountable for progress in meeting the new national goals and we expect to hold others accountable as well.

When goals are set and strategies for achieving them are adopted, we must establish clear measures of performance and then issue annual Report Cards on the progress of students, schools, the states, and the Federal Government.

Over the last few days we have humbly walked in the footsteps of Thomas Jefferson. We have started down a promising path. We have entered into a compact — a Jeffersonian compact to enlighten our children and the children of generations to come.

The time for rhetoric is past; the time for performance is now.

EDUCATION DAILY

May 4, 1989

CAVAZOS HOPES TO STIR UP STAGNANT EDUCATION WATERS

Everyone from lawmakers to parents should be worried about the nation's languishing education system, Education Secretary Lauro Cavazos said yesterday as he released a report showing limited achievement gains in the last year.

"We must reverse the stagnation and demand an excellent education for all our children," Cavazos said in unveiling the Education Department's sixth annual "wall chart." "We must stir up the education waters in America."

Cavazos said the mix of statistics pulled together for the wall chart--including standardized test results, graduation rates, teacher salaries and education spending--portray education performance that is "merely average."

"We are standing still, and the problem is that it's been this way for three years in a row," Cavazos said.

Some Good Signs The secretary said there are some encouraging signs in the wall chart; more students are taking college entrance exams, and minorities' test scores are improving, for example. In addition, the gap between minority and nonminority students closed in from 1978-1988 as black students gained 21 points on the verbal section of the Scholastic Aptitude Test (SAT) and 30 points on the math section.

But other indicators show losses.

The nation's graduation rate slipped from 71.5 percent in 1986 to 71.1 percent in 1987. In 1988, the average SAT score declined two points, falling to 904 of a possible 1,600. Average scores fell in 14 of the 22 states that administer the SAT, ED found.

And, while the average American College Testing program score improved a tenth of point to 18.8 out of a possible 36, the average score declined in 11 of the 28 states that use the exam.

"Our biggest stumbling block to improving education is that the nation still hasn't recognized that we have an educational deficit," Cavazos said at a Washington, D.C., news conference. "It bothers me, frankly, that we'll get a

(more)

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CAVAZOS HOPES TO STIR UP STAGNANT EDUCATION WATERS (Cont.)

lot of media attention on this today, but then everyone will say, 'Ho-hum, we've still got some education problems,' and they'll forget about it. These issues should be discussed on a local level every day, and parents should call schools and ask how they're doing on these indicators."

Cavazos said parents must become more involved and hold schools accountable for the education children receive.

He suggested that parents go to schools more, consult with teachers about what their children are studying and reinforce their children's learning at home by helping with homework. "There hasn't been enough demand at the local level that our education system improve," Cavazos said.

In addition, the secretary challenged states and local districts to set their own "education improvement targets." He said he would like to see states try to rival Minnesota's 90 percent graduation rate, halve the number of children who fail grades and raise the nation's science and math knowledge.

The secretary said President Bush's education initiatives--including additional money for magnet schools and alternative certification--mirror his goals for states, districts, individual schools and parents (ED, April 6).

Not Reform Indictment While a number of education reforms have been enacted, Charles Kolb, deputy undersecretary of planning, budget and evaluation, said the wall chart should not be seen as an indictment of them.

As of ED's latest count, 23 states test students' competence before graduation, 12 states base grade promotion on achievement testing, 44 states require new teachers to pass certification exams and 38 states offer alternative teacher certification programs.

"It's too early to say in many of these cases that school reforms are not working," Kolb said. "Most of these efforts are just getting started."

Better Comparisons Needed Several educators expressed concern yesterday about the comparability of ED's statistics. Jay Goldman, spokesman for the Council of Chief State School Officers (CCSSO), said in an interview that better measures are needed. "Right now, you shouldn't use the wall chart to compare states' dropout rates because they don't define dropouts in the same way," he said, adding that CCSSO will push for a standard definition (ED, March 20).

Ted Sanders, ED's new undersecretary and former CCSSO president, said in an interview that the wall chart "is the best we can do right now. If we wait until we have perfect information to act, we'll be waiting forever. We have to use the data available to us when we have to make decisions as important as decisions about education."

Cavazos acknowledged that the wall chart does not paint the nation's entire education picture, but international achievement tests and other national reports back up the chart's findings.

Kolb said ED still plans to use the wall chart as the basis for a comprehensive report to the president on the state of education, but no date has been set for its release (ED, Jan. 19). --Jane McQueen

STATE EDUCATION STATISTICS, 1987–88
Student Performance

	American College Testing Program (28 states)			Scholastic Aptitude Test (22 states)			Graduation Rate	
	1988 Score	1987 Score	Score Change	1988 Score	1987 Score	Score Change	1987	1986
Alabama	18.1 (21)	18.0 (21)	+0.1 (5)	—	—	—	70.2 (34)	67.3 (40)
Alaska	18.4 (19)	18.7 (19)	–0.3 (26)	—	—	—	66.7 (41)	68.3 (37)
Arizona	19.3 (9)	19.3 (9)	0.0 (7)	—	—	—	64.4 (45)	63.0 (47)
Arkansas	17.9 (25)	17.8 (24)	+0.1 (5)	—	—	—	77.5 (18)	78.0 (15)
California	—	—	—	908 (4)	906 (9)	+2 (6)	66.1 (42)	66.7 (42)
Colorado	19.7 (7)	19.9 (4)	–0.2 (23)	—	—	—	73.7 (26)	73.1 (29)
Connecticut	—	—	—	908 (4)	912 (5)	–4 (13)	80.5 (11)	89.8 (2)
Delaware	—	—	—	899 (10)	910 (6)	–11 (22)	70.1 (35)	70.7 (34)
District of Columbia	—	—	—	839 (21)	842 (19)	–3 (9)	55.5 (51)	56.8 (51)
Florida	—	—	—	890 (13)	893 (13)	–3 (9)	58.6 (50)	62.0 (49)
Georgia	—	—	—	848 (19)	840 (20)	+8 (1)	62.5 (47)	62.7 (48)
Hawaii	—	—	—	888 (15)	881 (16)	+7 (2)	70.8 (33)	70.8 (33)
Idaho	19.3 (9)	19.0 (14)	+0.3 (1)	—	—	—	78.8 (14)	79.0 (13)
Illinois	18.9 (15)	18.9 (15)	0.0 (7)	—	—	—	75.7 (22)	75.8 (21)
Indiana	—	—	—	870 (18)	874 (18)	–4 (13)	73.7 (2)	75.2 (23)
Iowa	20.3 (1)	20.3 (2)	0.0 (7)	—	—	—	86.4 (5)	87.5 (5)
Kansas	19.1 (12)	19.3 (9)	–0.2 (23)	—	—	—	82.1 (9)	81.5 (8)
Kentucky	18.2 (20)	18.3 (20)	–0.1 (18)	—	—	—	67.4 (39)	68.6 (36)
Louisiana	17.1 (27)	16.9 (27)	+0.2 (3)	—	—	—	60.1 (49)	61.8 (50)
Maine	—	—	—	896 (11)	899 (10)	–3 (9)	79.3 (13)	76.5 (20)
Maryland	—	—	—	908 (4)	914 (3)	–6 (21)	74.5 (23)	76.6 (19)
Massachusetts	—	—	—	906 (7)	909 (7)	–3 (9)	76.5 (20)	76.7 (18)
Michigan	18.8 (17)	18.8 (17)	0.0 (7)	—	—	—	62.4 (48)	67.8 (38)
Minnesota	19.9 (3)	20.2 (3)	–0.3 (26)	—	—	—	90.6 (1)	91.4 (1)
Mississippi	16.2 (28)	16.3 (28)	–0.1 (18)	—	—	—	64.8 (44)	63.3 (46)
Missouri	19.1 (12)	19.2 (12)	–0.1 (18)	—	—	—	74.4 (24)	75.6 (22)
Montana	19.9 (3)	19.9 (4)	0.0 (7)	—	—	—	86.2 (6)	87.2 (6)
Nebraska	19.8 (5)	19.8 (7)	0.0 (7)	—	—	—	86.7 (4)	88.1 (4)
Nevada	19.0 (14)	19.1 (13)	–0.1 (18)	—	—	—	72.1 (31)	73.1 (29)
New Hampshire	—	—	—	933 (1)	938 (1)	–5 (15)	72.7 (29)	73.3 (28)
New Jersey	—	—	—	893 (12)	892 (14)	+1 (8)	77.2 (19)	77.6 (16)
New Mexico	18.0 (22)	18.0 (21)	0.0 (7)	—	—	—	~~71.7 (32)~~	~~72.3 (31)~~
New York	—	—	—	889 (14)	894 (12)	–5 (15)	62.9 (46)	64.2 (45)
North Carolina	—	—	—	841 (20)	838 (21)	+3 (5)	67.8 (37)	70.0 (35)
North Dakota	18.7 (18)	18.8 (17)	–0.1 (18)	—	—	—	88.4 (3)	89.7 (3)
Ohio	19.3 (9)	19.3 (9)	0.0 (7)	—	—	—	82.8 (8)	80.4 (11)
Oklahoma	18.0 (22)	17.7 (25)	+0.3 (1)	—	—	—	72.6 (30)	71.6 (32)
Oregon	—	—	—	923 (2)	928 (2)	–5 (15)	72.8 (28)	74.1 (26)
Pennsylvania	—	—	—	886 (16)	891 (15)	–5 (15)	78.7 (15)	78.5 (14)
Rhode Island	—	—	—	900 (9)	898 (11)	+2 (6)	69.4 (36)	67.3 (40)
South Carolina	—	—	—	838 (22)	832 (22)	+6 (3)	66.9 (40)	64.5 (43)
South Dakota	19.8 (5)	19.6 (8)	+0.2 (3)	—	—	—	79.7 (12)	81.5 (8)
Tennessee	18.0 (22)	18.0 (21)	0.0 (7)	—	—	—	67.8 (37)	67.4 (39)
Texas	—	—	—	879 (17)	875 (17)	+4 (4)	65.1 (43)	64.3 (44)
Utah	18.9 (15)	18.9 (15)	0.0 (7)	—	—	—	80.6 (10)	80.3 (12)
Vermont	—	—	—	909 (3)	914 (3)	–5 (15)	78.0 (16)	77.6 (16)
Virginia	—	—	—	902 (8)	907 (8)	–5 (15)	74.0 (25)	73.9 (27)
Washington[1]	—	—	—	—	—	—	77.8 (17)	75.2 (23)
West Virginia	17.6 (26)	17.6 (26)	0.0 (7)	—	—	—	76.2 (21)	75.2 (23)
Wisconsin	20.2 (2)	20.4 (1)	–0.2 (23)	—	—	—	85.4 (7)	86.3 (7)
Wyoming	19.5 (8)	19.9 (4)	–0.4 (28)	—	—	—	89.3 (2)	81.2 (10)
U.S. Average	18.8	18.7	+0.1	904	906	–2	71.1	71.6

Note: Numbers in parentheses denote state ranks.

[1] Washington is neither an SAT nor an ACT state since it administers its own tests.

(more)

STATE EDUCATION STATISTICS, 1987–88 (Cont.)
Resources

	Average Teacher Salary		Pupil-Teacher Ratio		Federal Funds As Percent of School Revenues		Expenditures Per Pupil	
	Estimated 1988	1987	1988	1987	1987	1986	1987	1986
Alabama	$23,320 (41)	$23,200 (35)	19.3 (43)	19.8 (43)	11.7% (4)	11.8% (6)	$2,573 (49)	$2,565 (47)
Alaska	40,424 (1)	39,769 (1)	17.3 (29)	16.7 (22)	11.7 (4)	10.2 (12)	8,010 (1)	8,304 (1)
Arizona	27,388 (22)	25,972 (23)	18.6 (39)	18.4 (36)	9.0 (13)	10.7 (9)	3,544 (35)	3,336 (34)
Arkansas	20,340 (50)	19,904 (49)	17.1 (24)	17.5 (30)	11.5 (7)	11.4 (7)	2,733 (46)	2,658 (45)
California	33,159 (5)	31,219 (5)	22.9 (50)	23.0 (50)	7.1 (21)	7.3 (22)	3,728 (30)	3,543 (25)
Colorado	28,651 (17)	27,387 (17)	18.0 (33)	18.2 (33)	4.9 (38)	4.9 (41)	4,147 (18)	3,975 (17)
Connecticut	33,487 (4)	28,902 (7)	13.3 (1)	13.7 (1)	4.4 (45)	3.5 (51)	5,435 (5)	4,743 (6)
Delaware	29,573 (13)	27,467 (15)	16.1 (18)	16.0 (18)	7.7 (18)	8.1 (18)	4,825 (9)	4,610 (8)
District of Columbia	34,705 (2)	33,797 (2)	13.9 (3)	14.3 (4)	10.3 (11)	11.1 (8)	5,742 (4)	5,337 (4)
Florida	25,198 (28)	23,833 (30)	17.4 (31)	17.5 (30)	7.2 (20)	7.6 (20)	3,794 (25)	3,529 (27)
Georgia	26,190 (26)	24,200 (27)	18.7 (40)	18.9 (40)	7.1 (21)	8.2 (17)	3,374 (39)	2,966 (43)
Hawaii	28,785 (16)	26,815 (20)	21.6 (49)	22.6 (49)	11.8 (2)	10.5 (11)	3,787 (26)	3,807 (21)
Idaho	22,242 (44)	21,480 (43)	20.7 (48)	20.4 (46)	8.9 (14)	9.5 (13)	2,585 (48)	2,484 (49)
Illinois	29,663 (12)	28,238 (12)	17.2 (27)	17.4 (28)	4.3 (48)	4.6 (47)	4,106 (19)	3,781 (22)
Indiana	26,881 (25)	25,581 (24)	17.9 (32)	18.3 (34)	4.9 (38)	4.8 (43)	3,556 (34)	3,275 (36)
Iowa	24,847 (30)	22,615 (38)	15.6 (14)	15.5 (13)	5.1 (34)	5.2 (37)	3,808 (24)	3,619 (24)
Kansas	24,647 (32)	23,459 (31)	15.4 (12)	15.4 (11)	4.8 (41)	4.8 (43)	3,933 (21)	3,829 (20)
Kentucky	24,253 (35)	22,476 (39)	18.2 (35)	18.6 (38)	11.6 (6)	13.3 (1)	2,733 (46)	2,486 (48)
Louisiana	21,209 (48)	21,196 (48)	18.5 (38)	18.5 (37)	11.5 (7)	10.6 (10)	3,069 (44)	3,187 (39)
Maine	23,425 (40)	21,257 (47)	14.9 (7)	15.5 (13)	6.4 (26)	6.2 (28)	3,850 (23)	3,472 (32)
Maryland	30,933 (8)	28,893 (8)	17.1 (24)	17.1 (25)	5.1 (34)	5.4 (36)	4,777 (10)	4,447 (10)
Massachusetts	30,295 (10)	28,410 (10)	13.9 (3)	14.4 (5)	4.9 (38)	5.0 (39)	5,145 (7)	4,562 (9)
Michigan	32,926 (6)	31,500 (4)	20.1 (45)	20.2 (45)	5.9 (31)	5.9 (30)	4,353 (14)	4,176 (12)
Minnesota	29,900 (11)	28,340 (11)	17.1 (24)	17.4 (28)	4.2 (49)	4.3 (48)	4,180 (17)	3,941 (18)
Mississippi	20,562 (49)	19,447 (50)	18.8 (41)	19.0 (41)	10.5 (10)	12.0 (5)	2,350 (51)	2,362 (51)
Missouri	24,709 (31)	23,435 (32)	16.2 (19)	16.4 (21)	6.3 (27)	6.5 (26)	3,472 (36)	3,189 (38)
Montana	23,798 (38)	23,206 (33)	15.8 (16)	15.6 (15)	8.5 (16)	7.0 (23)	4,194 (16)	4,091 (15)
Nebraska	22,683 (42)	21,834 (42)	15.1 (9)	15.1 (8)	6.1 (29)	6.5 (26)	3,756 (29)	3,634 (23)
Nevada	27,600 (21)	26,960 (19)	20.2 (46)	20.4 (46)	4.4 (45)	5.0 (39)	3,573 (32)	3,440 (33)
New Hampshire	24,019 (37)	21,869 (40)	16.0 (17)	15.9 (17)	3.4 (51)	4.2 (49)	3,933 (21)	3,542 (26)
New Jersey	30,720 (9)	28,718 (9)	14.0 (5)	14.7 (6)	4.4 (45)	4.8 (43)	5,953 (3)	5,570 (3)
New Mexico	~~24,158 (36)~~	~~23,850 (29)~~	~~18.9 (42)~~	~~19.0 (41)~~	~~12.2 (1)~~	~~12.4 (2)~~	~~3,558 (33)~~	~~3,195 (37)~~
New York	34,500 (3)	32,000 (3)	15.2 (10)	15.4 (11)	4.8 (41)	5.7 (33)	6,497 (2)	6,011 (2)
North Carolina	24,900 (29)	23,879 (28)	18.2 (35)	18.7 (39)	7.9 (17)	8.8 (16)	3,129 (41)	2,948 (44)
North Dakota	21,660 (46)	21,284 (46)	15.6 (14)	15.3 (9)	9.4 (12)	9.0 (15)	3,437 (37)	3,483 (31)
Ohio	27,606 (20)	26,288 (22)	18.0 (33)	18.1 (32)	5.5 (33)	5.7 (33)	3,671 (31)	3,527 (29)
Oklahoma	21,630 (47)	21,468 (44)	16.9 (23)	16.9 (24)	5.6 (32)	5.9 (30)	3,099 (42)	3,146 (40)
Oregon	28,060 (19)	26,690 (21)	18.3 (37)	18.3 (34)	6.6 (25)	6.6 (25)	4,337 (15)	4,141 (14)
Pennsylvania	29,177 (14)	27,422 (16)	16.2 (19)	16.3 (19)	5.1 (34)	5.1 (38)	4,616 (11)	4,325 (11)
Rhode Island	32,858 (7)	31,079 (6)	15.0 (8)	15.0 (7)	4.5 (44)	4.9 (41)	4,985 (8)	4,667 (7)
South Carolina	24,403 (34)	23,201 (34)	17.2 (27)	17.3 (27)	8.9 (14)	9.3 (14)	3,237 (40)	3,058 (41)
South Dakota	19,758 (51)	18,781 (51)	15.5 (13)	15.6 (15)	11.8 (2)	12.1 (4)	3,097 (43)	3,051 (42)
Tennessee	23,785 (39)	22,627 (37)	19.6 (44)	19.9 (44)	11.1 (9)	12.2 (3)	2,827 (45)	2,612 (46)
Texas	25,558 (27)	24,903 (26)	17.3 (29)	17.2 (26)	7.1 (21)	7.4 (21)	3,409 (38)	3,298 (35)
Utah	22,572 (43)	23,035 (36)	24.7 (51)	23.4 (51)	6.1 (29)	5.7 (33)	2,415 (50)	2,390 (50)
Vermont	24,519 (33)	21,835 (41)	13.4 (2)	—	5.1 (34)	5.8 (32)	4,399 (13)	4,031 (16)
Virginia	27,193 (23)	25,039 (25)	16.3 (22)	16.6 (23)	—	—	3,780 (28)	3,520 (30)
Washington	28,217 (18)	27,285 (18)	20.2 (46)	20.5 (48)	6.3 (27)	6.1 (29)	3,964 (20)	3,881 (19)
West Virginia	21,736 (45)	21,446 (45)	15.2 (10)	15.3 (9)	7.5 (19)	7.9 (19)	3,784 (27)	3,528 (28)
Wisconsin	29,122 (15)	27,815 (14)	16.2 (19)	16.3 (19)	4.7 (43)	4.8 (43)	4,523 (12)	4,168 (13)
Wyoming	27,134 (24)	28,103 (13)	14.5 (6)	14.0 (2)	3.7 (50)	3.6 (50)	5,201 (6)	5,114 (5)
U.S. Average	$28,008	$26,556	17.6	17.7	6.4%	6.7%	$3,977	$3,756

Note: Numbers in parentheses denote state ranks.
Source: Education Department

The Washington Post

Chester E. Finn Jr.

Norms for the Nation's Schools

In its celebrated 1983 report, "A Nation at Risk," the National Commission on Excellence in Education made one big mistake. It wasted a terrific opportunity to spell out the essential skills and knowledge that all young Americans should acquire in school. Instead, the panel prescribed the "new basics," a certain number of years of study of each core academic subject (e.g., four of English, three of math) to be taken by all high school students.

To be sure, this was a gutsy assertion at the time inasmuch as "local control of the curriculum" has long been one of the premier shibboleths of American education. But the commission chose the wrong standard. It is possible to spend three years sitting in a classroom labeled "mathematics" yet not learn much math. What you study in Connecticut may not mesh very well with what you'll find if you move to Arizona. Slow learners plainly need longer to reach any given level of intellectual attainment. For nobody does a uniform calculus of "seat time" constitute a sensible norm.

The main reason for lamenting the commission's choice of benchmarks, however, is that in an era of keen nationwide interest in education reform, tallying course credits doesn't tell us what we most want to know: how well our children are acquiring the skills that they will need to become effective adults and the knowledge that the nation needs for them to acquire if it is to be secure, well-governed and productive.

> *"In education, we have lots of tests, but we don't really have any norms.... Hence we have no clear sense of the result we seek from school reform efforts."*

We do have some reliable evidence about learning levels for the country as a whole, thanks to 20 years of data from the National Assessment of Educational Progress. We know, for example, that just 5 percent of 11th-graders can successfully read college-level material, that only 6 percent can handle simple algebra and that barely one in three can place the Civil War in the correct half century.

This is revealing information. But it suffers from two shortcomings. It is not available for the states, localities and individual schools that are the policy-and-delivery units of American education. More fundamentally, NAEP doesn't tell us what is good enough. How many 11th-graders should be able to solve multistep math problems? To know when the New Deal occurred? As a society, we're not squeamish about suggesting norms for what individuals should weigh, how much money they must earn in order not to be judged "impoverished" and how much cholesterol is okay in their blood. Once there is a norm, we can calculate how many people meet it and see whether we're progressing or backsliding. We can also perform fine-grained analyses if we want to know, say, how the people of South Carolina compare with those in Arizona, or Milwaukee with Memphis.

In education, we have lots of tests, but we don't really have any norms. We can tell you whether you're above average but not whether that average is where it ought to be. Hence we have no clear sense of the result we seek from school reform efforts.

Lacking outcome specifications, we can go on forever restructuring schools, revising the curriculum and altering teacher education programs without any confidence that we'll be any happier with what emerges tomorrow. "It's like an industry that's unclear about its product," former commissioner of education Ernest L. Boyer said to the Business Roundtable in June, "and thus is hopelessly confused about quality control."

Boyer proposed that there come into being a nationwide curriculum and a "National Council on Education Trends" to report on school performance *vis-à-vis* the norms embedded in that curriculum. He was echoed by teacher union chief Albert Shanker and Arkansas Gov. Bill Clinton.

Not long ago, it would have been rank heresy for a Republican to concur, but I think they are basically right. The conservative government of Margaret Thatcher has reached the same conclusion, and a national core curriculum is now being installed throughout what has been the highly decentralized school system of England and Wales together with an assessment scheme to track student performance.

In Britain, the new curriculum and standards are mandatory. That approach is not for us. In the United States, the norms should be there for the using—and pupil assessment data for the viewing—but not obligatory. In any case, the constitutional sovereignty of the 50 states in this domain means that they can teach whatever they like. Why, then, go to the bother of devising such norms?

- It's the nation that's at risk, not just Oklahoma or Pennsylvania. It's the whole country that is competing with Korea, Germany and Japan.
- The population is more mobile all the time. It is important to be able to shift from the fourth grade in Hartford to the fifth grade in San Diego, or from high school in Denver to college in Chicago without losing one's educational bearings.
- Youngsters throughout the land already learn many of the same things. But what they're learning isn't necessarily good for them. It comes from television, movies, popular music, fast food chains, national newspapers and magazines and electronic communications systems. We already have the rudiments of a nationwide curriculum. Why not turn it into one we like?
- There's mounting receptivity in the land to thinking this way. Observe the flurry, in recent years, of suggested national curricula. Former Education Secretary William J. Bennett promulgated his "James Madison" curriculum. The American Association for the Advancement of Science has lately done the same for math and science. Likewise the Bradley commission on history in the schools. They are not alone.
- In education, we're getting better at distinguishing the national from the federal. The National Governors Association and the Council of Chief State School Officers, for example, have been showing that it is possible to consider ocean-to-ocean school reform strategies without Washington-driven mandates, regulations or subsidies.

"America," Boyer told the gathered CEOs last month, "is moving in fits and starts toward a national view of education." Still missing are the norms and standards.

Where should these come from? The mechanism may need to be invented, but one starting place could be the education "summit" meeting that President Bush and the governors will hold in September. The National Governors Association could take this on directly, persuading a group of its members to lock themselves in a room until they can agree on a draft. Alternatively, some of the drafting could be undertaken by the NAEP governing board, a 23-person, mostly lay panel that already has (but hasn't acted upon) statutory responsibility to identify "appropriate achievement goals" for the various subjects and grade levels spanned by the assessment program. But the task of specifying the ends of education shouldn't be turned over to the professionals—though they, together with parents, should have sweeping authority over the means to those ends. Neither should it be entrusted to Congress or the regulation writers of the executive branch.

The country will surely need to see a draft—or two or three—before it can know whether it really wants nationwide education norms and a core curriculum to accompany them. My sense is that we're hungry for them. In fact, I think we had a pretty good appetite six years ago.

The writer, a former assistant secretary of education, is a Vanderbilt University professor and chairman of the National Assessment Governing Board.

The Time Has Come

School Reform: Completing the Course

The most urgent task this generation confronts is the rebuilding of the nation's schools. That's the message Carnegie Foundation President Boyer brought to a presidential candidate's forum held last September in Chapel Hill, N.C. His remarks are reprinted here.

BY ERNEST L. BOYER

IT HAS BEEN four and one-half years since the National Commission on Excellence in Education declared: "If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war."

Since that hyperbole hit the headlines, this nation has engaged in the most serious and sustained bipartisan drive for school renewal in our history. Thanks to governors, educators, and legislative leaders, education has been at the top of the national agenda, and I applaud the remarkable progress that we've made.

But with all our achievements, which are truly great, I'm convinced the time has come to move to a still more substantive agenda. I'd like to apply a four-part test of quality against which the reform movement, ultimately, must be measured. The four back-to-basics questions we now confront are:

- Can we attract and hold outstanding teachers?
- Can we agree on the content to be taught?
- Can we effectively evaluate the students?
- Can we serve all children, not just the most advantaged?

The Teachers

The quality of education in this country can be no greater than the dignity we assign to teaching and, since 1983, Americans have begun to view teachers as part of the solution, not the problem. During the past four years, teacher training has improved, certification has been

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tightened, national teacher organizations have constructively modified their stance, teacher salaries have gone up at twice the inflation rate. And on these points the reform movement deserves high marks—a solid B+, even A, perhaps.

But here a word of caution.

I am concerned that, even with substantial gains, the profession of teaching in the United States will remain imperiled—not because salaries or credentialing standards are too low—but because day-to-day conditions in the schools leave many teachers more responsible, but less empowered.

At the Carnegie Foundation we've just surveyed thousands of teachers from coast to coast. We discovered:

- Nearly one-third say they have no role in shaping the curriculum they are asked to teach.
- More than 50 percent do not participate in planning their own inservice education programs.
- Seventy percent are not asked to help shape retention policies at their school.
- And more than 60 percent are not involved in deciding which students will be "tracked" into special classes.

And then we wonder why many of our most gifted students do not go into teaching!

There *are* poor teachers in the schools. And for the reform movement to succeed, the teaching profession must be much more vigorous in monitoring itself. This nation simply cannot tolerate mediocrity in the classroom.

But it's also true that no profession is made healthy by focusing only on what's bad, or by relentlessly diminishing the status of those who do the work. Indeed, if the reform movement is to succeed we must move beyond the regulations and focus more on teacher recognition.

I find it ironic that while industry now talks about involving plant workers in decisions, the school reform movement risks moving in just the opposite direction. Perhaps it's here that we can borrow something from the Japanese. In Japan, parents are intensely supportive of the schools and, in that culture, the term *sensei*—teacher—is a title of great honor.

The quality of education in this country can be no greater than the dignity we assign to teaching . . .

I applaud the career ladders and master teacher ranks recently introduced in several states. I applaud the fellowships, awards, and special tributes being given to outstanding teachers. However, let's also have, at every school, a teacher excellence fund, a teacher travel fund, a top-quality program of inservice education. And let's have effective principals who work with "teacher teams," and let's grant more autonomy to the local school.

But we need federal leadership as well.

Almost 30 years ago, in response to Sputnik, President Dwight Eisenhower proposed the National Defense Education Act, a federally funded teacher program that sent a powerful signal to the nation.

What I now propose is a 1988 version of Eisenhower's NDEA, a new legislative package—called perhaps the Teacher Excellence Act—that would, among other things, establish teacher institutes in every region of the country and provide fellowships to thousands of teachers from all 50 states, allowing them to spend time in libraries, in laboratories, and with other teachers—the simple things that college professors take for granted.

The Act could well include a distinguished teaching fellows program in which master teachers in each state would spend a year moving from school to school, holding seminars with colleagues. The Teacher Excellence Act should also greatly expand the Carl D. Perkins scholarships (Public Law 98-558) that give awards to top college students who agree to teach in public schools. We recruit young Americans for service overseas. Why not also encourage them to teach the rural poor and the disadvantaged in our inner cities?

And why not fund summer institutes on teaching for gifted high school students who plan to enter the profession?

Martin Luther King declared that, "Everybody can be great because everybody can serve." And I'm convinced that the young people of this nation are more than ready to be inspired by a larger vision. Indeed, the next president should make teacher excellence a national crusade, and be more concerned about getting outstanding teachers into classrooms than getting weapons into space.

Only then will the future of this nation be secure.

The Content To Be Taught

No amount of reassuring rhetoric can conceal the fact that, in most schools, the K through 12 curriculum is still a Rube Goldberg arrangement that lacks both quality and coherence. During the past four years, we've added more Carnegie units to the requirements for graduation—and that's a plus—but what we've failed to ask is: What's behind the labels? We say "science," but *what* science should be studied? History, yes. But *which* history? We require English, but "English" can mean anything from Shakespeare to basic grammar.

Surely, the school curriculum must be something more than the minimalism that exists today, something more than the fragments of information, the disconnected courses. But where do we begin?

Literacy comes first. On this point, everyone agrees. But what we can't agree upon, it seems, is the *level* of literacy to be accomplished. Will we settle for the simple vocabulary and word matching tests now required, even at the college level? Is *this* what it means to be linguistically proficient?

There are poor teachers in the schools. And for the reform movement to succeed, the teaching profession must be much more vigorous in monitoring itself. This nation simply cannot tolerate mediocrity in the classroom.

Recently, the National Assessment of Educational Progress reported that most young adults in the United States are literate by UNESCO standards—they can read words in passages appropriate to their age. However, the report also revealed that more than 40 percent of those surveyed had trouble drawing meaning from the message. There was word recognition, but not sufficient insight or understanding.

Literacy, if it means anything at all, means teaching students to think critically, listen with discernment, and communicate with power and precision. And this process must begin the first day of school.

I propose that every district organize what might be called *The Basic School*, with priority on language. From the very first, children in this school—one that resembles kindergarten through grade four—would be speaking, writing, reading, listening to stories, talking about words, building a rich vocabulary, creating a climate the foreign language people like to call "the saturation method." The goal would be to ensure that every child becomes proficient in the use of English.

Let's also give priority to writing in *all* the grades, since it's through clear writing that clear thinking can be taught.

And, I propose that every high school senior, as a requirement for graduation, be asked to write a paper on a consequential topic. If, after 12 years of formal schooling, students cannot express themselves with clarity and coherence, cannot integrate ideas or state with cogency their conclusions, then we should close the school doors and start again.

But literacy, at its highest level, means something more. It means teaching students that language is a sacred trust.

We hear a lot of talk these days about instilling values in the schools. Frankly, I'm not sure this can be accomplished with a separate course in morality or ethics. I *am* convinced, however, that values are sustained by the honesty of our own words and by the confidence we have in the words of others.

In morality, there is no place for "plausible deniability" and, if the Iran hearings taught us anything at all, they taught us that good communication means, not just *clarity*, but *integrity* as well.

The school curriculum also should embrace cultural literacy, to use E.D. Hirsch's helpful formulation. Students need to know about our western heritage, our institutions, literature, geography, and the arts. And they also must become familiar with languages and cultures other than our own.

During our research on the American high school, we discovered that only two states require students to complete a course in non-western studies. And two years ago, in a survey of 5,000 undergraduates, we learned that more than 30 percent of today's college students said they had "nothing in common" with people in underdeveloped countries. Is this acceptable in a world that is politically, economically, and environmentally connected?

Literacy, if it means anything at all, means teaching students to think critically, listen with discernment, and communicate with power and precision.

We live, today, in a global village that's ecologically imperiled: The protective ozone layer is endangered. Our shorelines are becoming polluted. The tropical rain forests are being depleted at the rate of 100,000 square kilometers every year.

And yet, for far too many students, their knowledge of nature and its resources goes about as far as the refrigerator door, the VCR knob, and the light switch on the wall. I'm suggesting that to be a responsible citizen in the twenty-first century means becoming literate in science and understanding our connections, and responsibilities, to the natural world.

But isn't it a bit ironic that nearly five years after the National Commission said, "The nation is at risk," we're *still* talking about what students do not *know*! Isn't it time for master teachers and research scholars to come together—in a kind of peacetime Manhattan Project on the school curriculum—to design, for optional state use, courses of study in language, in history, in science, and propose ways to link the content of schooling to the realities of life?

More than 40 years ago, Mark Van Doren wrote that, "The connectedness of things is what the educator contemplates to the limit of his capacity." He concludes by saying that, "The student who can begin early in life to think of things as connected . . . has begun the life of learning."

In the end we need content, with connections.

Evaluating the Results

On this point, the reform movement deserves a barely passing grade.

The taxpayers of the United States cannot be expected to invest $130 billion every year in public education without hard evidence that their investment is paying off. And yet, with all the talk about school renewal, we are still confused about how best to measure the results.

Part of the problem is that, in America, we want local school control, we want national results, and we're ambivalent about how to reconcile the two.

But it's also true that, for years, many educators have been playing blind man's bluff. They've criticized public efforts to measure school performance while failing to develop yardsticks of their own. Doubly distressing is the fact that the standardized tests now available often measure that which matters least.

There are exceptions, to be sure. The Iowa tests have provided a baseline of student achievement for many years. And the National Assessment of Educational Progress holds great promise.

Some of the most useful work is being done by Howard Gardner, who, in his insightful book, *Frames of Mind*, reminds us that beyond verbal intelligence, there is mathematical, social, intuitive, and aesthetic intelligence as well, and that the instruments we use in school should expand the child's potential, not restrict it.

What we need today is a *comprehensive* program of assessment, one that includes:

- First, the measuring of language, mathematics, and computing skills—to verify that young children have mastered the basic tools of learning.
- Second, a cluster of general education examinations at the high school level—to measure knowledge in such areas as science, civics, literature, history, and geography.
- Third, a senior writing project for all students—to determine their capacity to think critically and integrate ideas.
- And finally, a student portfolio of school and service projects—to evaluate the higher order aptitudes of aesthetic sensitivity, creativity, and problem solving, for example.

To monitor assessment and develop a model program to be used optionally by each state, I propose a national, nongovernmental panel—organized, perhaps, by the Education Commission of the States, the six regional accrediting associations, and the Chief State School Officers, who are already bringing leadership and vision to the testing movement.

What we test determines, in large

measure, what we teach. And shaping a comprehensive program of evaluation, one that enriches rather than trivializes the goals of education, is one of the most urgent challenges the reform movement now confronts.

Reaching All Students

From the very first, this nation has understood that education and democracy are connected. And at this late hour it's almost embarrassing to ask: "Which students will be served?" Today, almost everyone agrees that excellence in education means excellence for *all*.

But, frankly, that's not the way the reform movement is working out. While "advantaged" schools are getting better, others remain deeply troubled institutions. And there is still an enormous gap between our rhetoric and results.

During a recent Carnegie study of urban schools, I became convinced that we have not just a school problem, but a youth problem in this nation. Many of our young people—especially those from disadvantaged backgrounds—feel unguided and unconnected to the larger world.

Today, at least 30 percent of all black high school students drop out and more than 40 percent of the Mexican and Puerto Rican students leave before they are awarded a diploma. Today, in both urban and rural schools, as many as half the disadvantaged students are absent on any given day.

Between now and the year 2000, one out of every three youngsters in public education will be from minority populations. And these are precisely the students for whom the schools have been least successful. To make these schools effective we need concerned parents, smaller schools and smaller classes, better counseling and guidance, and flexible arrangements that link schools to community service and to work.

And, once again, we must have federal leadership to do the job, as the nation's corporate leaders just declared. We urgently need:

- Full funding of Head Start, to encourage prekindergarten education
- Full funding of Chapter I of the Elementary and Secondary Education Act, to strengthen basic skills
- And full funding of the federal nutrition programs, to stimulate young minds.

Winston Churchill said it all when he observed that "There is no finer investment for any community than putting milk into babies." And it's an unspeakable disgrace that, since 1979, the number of poor families with children in this country—the richest country in the world—has risen 35 percent. The harsh truth is that if "at risk" students do not become a national priority, the promise of education for *all* will remain sadly unfulfilled and our very future as a nation will be threatened.

Conclusion

Since 1983, we have had one of the most sustained and consequential periods of school renewal in the nation's history. But if we stop now, we will have failed. To succeed:

- We must make teacher excellence a national crusade.
- We must define a core of common knowledge.
- We must design a comprehensive program of assessment.
- And, above all, we must confront the crisis of the disadvantaged, since, ultimately, the reform movement will be judged, not by what happens to students in the privileged schools, but by what happens to our poorest and most neglected young people.

Again, I salute the governors and the legislators for their leadership in school reform. Thanks to their efforts, great progress has been made. But as John Gardner reminded us:

> **A nation is never finished. You can't build it and leave it standing as the Pharaohs did the pyramids. It has to be recreated for each generation.**

And the most urgent task this generation now confronts is the rebuilding of the nation's schools.

Special Programs for Special Students

Middle level educators nationwide are working to refocus on the movement started earlier this century to provide separate, suitable programs for students between elementary school and secondary school. The fact of puberty, if no other reason, requires a special program for these pre-adolescents and early adolescents—transescents—as they move through perhaps the most difficult, confusing, and frightening period of their lives. Because of their special condition, they require special programs designed to meet their needs. They need individuals working with them who understand and accept their characteristics, while helping them cope with their confusion and insecurity as they continue their academic program.

—Edward A. Barnhart, NASSP Committee on Middle Level Education

WHERE WE STAND

By Albert Shanker, President
American Federation of Teachers

Tests Don't Tell Us...

What Kids Really Know

Every year, the American public spends hundreds of millions of dollars on testing our students. Yet we find out very little about what they know and are able to do. What do I mean? After all, students take their standardized reading and math tests, school districts annnounce the results, and we hear that "This year 56.7 percent of our students are above average in reading and 62.2 percent above average in math, whereas last year . . . " Sure, but what, exactly, are those numbers telling us?

Dr. John Jacob Cannell found that most states report the majority of their students to be "above average" on standardized tests. Impossible? No, because in the newspeak of standardized test reporting, "above average" doesn't mean in comparison with the kids who took the test that year. It means above average of a sample group of students who took the exam five, ten or more years ago.

Still, shouldn't we still applaud when scores go up? Probably not. The higher scores are not necessarily a sign that schools are improving, that students know more reading and math. They usually just mean that more and more time has been spent on practicing answering the kinds of questions that will be on the tests. Kids may actually be learning less because other, more important things that won't be tested are being neglected.

The next time the test results are publicized, instead of being dazzled — or disgusted — by the numbers, stop and ask yourself what the scores mean. If 58.6 percent of ninth graders are above average, what can they do? Can they read a newspaper? Can they write a good letter? Can they extract information from an almanac, graph or chart? This is the kind of information that's understandable and useful to the public and policymakers. It's what we need in order to know how well or how poorly our schools are doing.

The National Assessment of Educational Progress (NAEP) regularly supplies this kind of information from a national sample of students. But NAEP was prohibited from reporting results for individual states, school districts, schools or students because, when it was put into place by the Congress in 1969, it was feared that this move would require testing so many students that it would lead to a national curriculum and federal control of schools.

In spite of these limitations, and perhaps partly because of them, NAEP has been able to give us useful, and often sobering, information about what American students know. It has told us, for instance, that only 2.6 percent of our 17-year-old high school students — the dropouts aren't counted — can write a good persuasive letter, only 20 percent can write a simple two-paragraph letter applying for a job, only 12 percent can arrange a series of simple fractions in size order and only 32 percent know in which half century the Civil War occurred.

But national averages just don't move people to action because they don't tell them how their own school systems or kids are doing. So last year, a national study group headed by former Tennessee governor Lamar Alexander and H. Thomas James, president emeritus of the Spencer Foundation, recommended that the prohibition on how NAEP results are reported be loosened a bit. NAEP has now been expanded so that results for participating states can be broken out state by state though not by school district, school or student.

State officials, taxpayers and parents will now know how the performance of students in their states compares with students in other states, but that still won't tell them what they need to know. Whatever the state results, districts and schools will be able to say, "That's not us. We're much better. That district down the road or at the other end of the state brought down the score." Of course, giving states a chance to compare their current and future results will provide some useful information over time. When taxes are cut, do students achieve less? If a state adopts a particular set of texts or standards for becoming a teacher are there changes in student achievement?

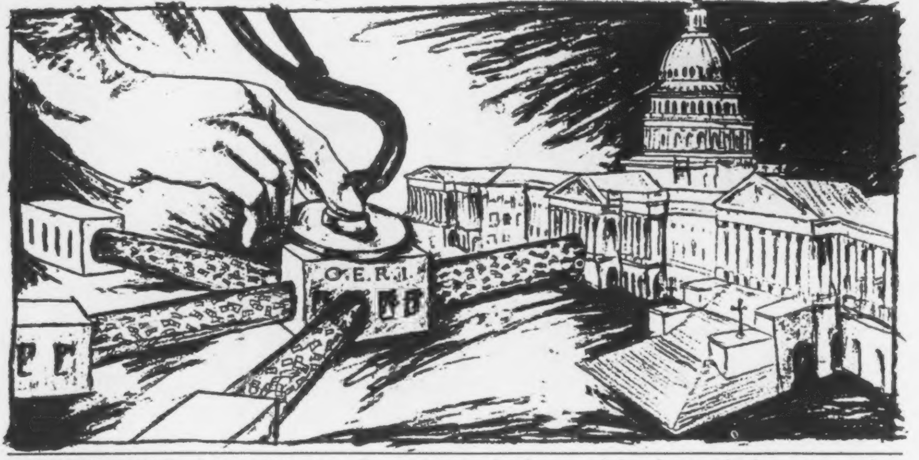
But that still leaves an unfilled need for assessments for people in local school districts. A further expansion of NAEP to meet that need may be the answer. Or it may not be. NAEP is still mainly a multiple-choice test. And it may be unwise to expect NAEP to do something it wasn't designed for.

Does that mean we have to continue to rely on those idiotic standardized tests? Fortunately not. New tests now in the works assess student performance by asking students to do such things as carry out real science experiments, write essays based on their own research and make oral presentations. Instead of being boxed in by the one-right-answer format of a multiple-choice test, kids can explain their reasons for answering questions in a particular way. They can show what they know and are able to do.

Imagine the difference if tests like these drove the curriculum instead of low-level, multiple choice tests. Teachers would be preparing kids for tests by helping them learn how to think, write and solve problems — skills they need in the real world. Connecticut, New York, Vermont, California, Michigan and a handful of other states are pioneering tests like these right now. Why just a handful? The present idiotic system of assessment has got to go. We need a way of knowing, really knowing, how our students are doing.

Mr. Shanker's comments appear in [illegible] every Sunday [illegible] of the New York State United Teachers and the American [illegible] Teachers. [illegible]

Lessons Learned: Federal Policy Making and The Education Research Community



Mr. Finn takes stock of some of the changes he has witnessed during the past three years in the Office of Educational Research and Improvement. Paradoxically, he says, as OERI has been dwindling, it has also been demonstrating the possibility of renewal and even rebirth.

BY CHESTER E. FINN, JR.

THE TITLE of this article might seem somewhat ambiguous, so let me clarify matters at the outset. I will focus on federal policy making with regard to education research, not on the effects of research on federal policy making in general or even on the making of federal *education* policy. My intention is to ruminate and reflect, candidly but constructively, after three years in my current post and nearly two decades spent stepping into and out of the snarled intersection of federal policy and education research.

Let me start by taking stock of some of the changes we have witnessed during the past three years in the Office of Educational Research and Improvement (OERI) – which remains, for better or worse, the only unit in the federal government that is explicitly dedicated to the collection and analysis of information and to the support of systematic inquiry about education.

First, let's look at fiscal matters. Last spring I appeared for the third time before the House and Senate Appropriations Committees. For the third time I asked

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Illustration by Guy Lawrence

— as the President's budget request had asked for the third time — for an increase in funding for education research and for the collection of statistics. As of late summer, our request for fiscal year 1989 was $84.4 million — some $24 million more than the amount that had been appropriated in fiscal year 1985 and some $27 million more than Congress permitted us to spend in fiscal year 1986. I don't want to break my arm patting our team on the back, but, in education research, to paraphrase Sen. Everett Dirksen, $24 million here and $27 million there and pretty soon you're talking about "real money."

The budget for fiscal year 1989 included the Administration's largest request for these activities since 1981. But for the third year in a row Congress saw fit to appropriate substantially less than the President sought. The area of research and statistics is the only major Education Department (ED) account for which this has been true. For fiscal year 1987 we received *none* of the additional funds that we had originally requested for the purposes for which we requested them, though $4 million that we had not asked for was tacked onto the appropriation for a so-called "rural initiative," with the funds restricted to the regional educational laboratories. Save for that addition, the account for research and statistics was level-funded.

For fiscal year 1988 there was good news for the OERI missions of statistics and assessment: an appropriation of almost $21 million, up from about $14 million for these activities in the previous year. This 48% increase was the first nonincremental increase in memory for federal education data-gathering. As for the rest of the budget request that year, we experienced a painful cut. The labs absconded with $3.8 million for another installment of the "rural initiative," even as the total appropriation for the nonstatistical section of OERI — what I sometimes think of as the "old National Institute of Education (NIE)" — was reduced by $2.1 million below the President's request. The upshot is that, for the fiscal year ending on September 30, we experienced the tightest funding situation in a long time.

But worse lies ahead. Recent congressional action on the fiscal year 1989 appropriation puts the "old NIE" portions of our enterprise onto even leaner rations, about $4.4 million below the President's request — and of the meager sums provided, $5.1 million is reserved for another installment of the "rural initiative." Though the statistics-and-assessment line in the budget received another healthy boost, the financial picture on the research side is the bleakest yet.

Let us turn next to structural matters. As is well-known, Secretary of Education William Bennett reorganized the research arm of ED in the summer of 1985, putting the NIE out of its institutional misery and combining it with the old National Center for Education Statistics and the Center for Libraries and Education Information, amalgamating them into what we termed the "new OERI." Congress ratified this arrangement, first by not undoing the administrative reorganization during the period when it might have objected and then by incorporating our design into the Higher Education Amendments of 1986.

All was finally stable, we supposed. And for about two years this was indeed so. But no longer.

LATE LAST spring, as part of the Hawkins-Stafford School Improvement Amendments of 1988, Congress made a major change in the structural arrangements of OERI. Our statistics unit was transformed into a semi-autonomous agency, called (once again) the National Center for Education Statistics. Although still housed within OERI, it is to have its own Presidentially appointed commissioner; its own procurement, personnel, and publishing authorities; and perhaps its own separate line in ED's budget for salaries and expenses. In truth, the organizational trappings are almost identical to those of the NIE, though this time they pertain to the statistical rather than to the research side.

And it isn't just the structure that is similar. I'm struck, too, by the parallelism of the underlying motives, which appear almost identical to those that led to the establishment of the NIE 16 years ago: a desire for the function embodied in the new agency to have higher status, greater visibility, more resources, and thicker insulation from political influence. I'll return to some of these issues later. For now, let me simply note that what has for several years been a reasonably stable organizational structure is now in the throes of another massive disruption.

As for the *substance* of the statistical enterprise, the past several years have seen a virtual renaissance. (In fairness, I should note that some of the most needed changes had been launched by Emerson Elliott and his team in the months before Bill Bennett and I arrived on the scene.) We have overhauled virtually all the agency's basic data systems; accelerated the collection, analysis, and publication of statistical information; filled some of the worst gaps in data collection (or at least set in motion activities that will fill those gaps during the next few years); and made huge strides in quality control.

"X isn't the only thing that's unknown."

The care and feeding of centers has been OERI's biggest task by far in fiscal year 1988.

On the assessment front, we've made good progress as well, some of it embodied in new provisions for the National Assessment of Educational Progress (NAEP), which are incorporated into the Hawkins-Stafford Amendments. These provisions pick up most of the recommendations of the 1986 task force on national assessment that was led by Lamar Alexander and H. Thomas James. These included such items as wider coverage of subjects, new governance arrangements, and the beginnings of state-by-state assessments. In addition, the NAEP has moved into previously unexplored subjects, has made good progress in "scaling" its data to facilitate the examination of trends, and has considerably improved the dissemination – and intelligibility – of its reports.

Turning now to the "research and improvement" portions of the enterprise, our Office of Research is currently administering 19 research centers – 10 of them begun (or renewed) a few months after I arrived in 1985 and seven of them the products of competitions since then. (The other two centers were already operating when I arrived.) Competitions for two more centers were concluded in September, one having to do with technology and the other, with school leadership. Our budget request for fiscal year 1989 proposed two additional competitions: a fairly large center to examine the effective schooling of disadvantaged youngsters and a smaller one in civics and citizenship education that was intended to join the five subject-matter centers that we launched during 1987, either on our own or jointly with the National Endowment for the Arts. (The National Endowment for the Humanities has recently funded a very similar research center devoted to the teaching and learning of history, so the civics/citizenship center would bring the total of federally sponsored subject-matter centers to seven, though the niggardly research appropriation for fiscal year 1989 probably means that this new one will not materialize.)

These university-based centers typically involve five-year grants ranging from about $500,000 to $1.5 million annually. The idea, which is now almost a quarter of a century old, is that a research center is able to bring to bear on a particular problem or issue a critical mass of scholarly effort that cannot be mustered by individual researchers and individual research projects. In so doing, the center assumes national prominence – even leadership – in its particular field of inquiry and is supposed to yield significant intellectual breakthroughs.

Although a number of our centers do good and useful work (and more may yet do so before their current grant cycles end), concentrating research efforts in this single mode is inherently risky and shortsighted. By giving particular institutions virtual monopolies over major topics of inquiry, competition is discouraged; each issue or problem tends to be explored within a single research paradigm, even if it might be more fruitfully examined in several different ways; and lone scholars, people with unconventional ideas and fresh perspectives, and people located outside the two dozen most famous universities are discouraged from becoming seriously involved in research.

While most government research agencies sponsor centers of this sort, education is the only field in which practically all the research funding is parceled out in this fashion. Not that we haven't sought appropriations for individual projects, for field-initiated studies, and for various grant competitions. But the idea of the centers has led a charmed life on Capitol Hill. As a result, OERI now has essentially no money with which to support research that does not fall within the purview of the centers.

Though the care and feeding of centers has been its biggest task by far, in fiscal year 1988 our Office of Research also conducted the third consecutive competition for field-initiated research grants, something we were able to revive in 1986 after it had lain dormant for several years. A couple hundred proposals have arrived each year, at least several dozen of them quite promising. But we have been able to make only a handful of awards from the $500,000 Congress has appropriated for this purpose.

We have also revived the idea of research fellowships and were able to support a total of 12 such fellows out of our funding for fiscal years 1986 and 1987. We had conducted the competition and peer review for fiscal year 1988 and had identified some superb candidates but were forced to abort the program because insufficient funds were appropriated.

So things have been exceedingly tight on the fiscal front. But, as the foregoing discussion shows, we haven't been idle. The other accomplishment of which I'm proudest in these past three years is the considerable progress we've made in translating extant research findings and statistical analyses into English and getting them into the hands of individuals who might benefit from them. *Kappan* readers are no doubt familiar with the publications in the *What Works* series (the two editions of which have now been distributed to the tune of more than 580,000 copies). But OERI itself has produced more than 300 publications of various kinds between July 1985 and April 1988. Nearly 200 more are in the works. In addition, major institutional grantees and contractors (centers, labs, ERIC clearinghouses, the NAEP, etc.) have produced more than 1,600 other publications during the same period.

Implicit in these activities of translating and disseminating research findings is a change in OERI's basic strategy – indeed, a change in the very definition of our "constituency." Much as Bill Bennett recast ED's constituency, construing it more as education-minded citizens than as educational institutions and practitioners, so have we in OERI significantly widened our conception of our clientele. It no longer consists wholly of scholars, analysts, and information-gatherers. It now includes to a greater extent than before the users of information: the practitioners, policy makers, journalists, parents, and citizens who crave prompt, reliable data and more pertinent, intelligible, and practicable research findings. If that entails a partial shift of resources from the conduct of new research to the explication and dissemination of sound research already "on the shelf," so be it. We'd like to do more of both, of course, but money for these purposes has always been tight.

I could rattle on, boasting of minor improvements in the ERIC system, of several new programs that we're administering, and of institutionalization of a systematic policy of peer review throughout OERI that is supported by a computerized reviewer bank containing names and specialties of nearly 2,000 individuals who have consented to participate. I could tell you of the first-ever systematic evaluation of the regional labs, of some terrific conferences, of a couple of grant competitions that I've been especially pleased with, and of some additional work on the international front.

BUT ENOUGH. Let me discuss instead some of what *doesn't* satisfy me about OERI's current situation and some worrisome signs and portents I see of things to come.

For all practical purposes, the non-statistics part of OERI is today little more than a pipeline conveying funds to major institutional recipients, namely labs, centers, and various segments of the ERIC system. In fiscal year 1988, out of a total appropriation of $46.6 million for everything except statistics and assessment, only $2.3 million (about 5%) did *not* go to one of those three types of institutional recipients. That's peanuts. Fiscal year 1989 looks like peanut shells.

And tying OERI's hands in this way has a grave consequence. Except for our paltry field-initiated competition, I would have to say that, unless you are a center or a lab or an ERIC clearinghouse, there is nothing OERI can currently do to fund your work. We are unable to respond to people's ideas and initiatives, no matter how important we perceive them to be. Nor can we support their development or dissemination.

I'll put aside for another time my detailed appraisals of ERIC, of the labs, and of the centers. The three categories are quite different from one another, of course, and it isn't right to lump them together. Each kind of institution has its virtues; each has its weaknesses; all are powerfully resistant to changing their accustomed practices and emphases; yet each has done some good. For now, I simply want to point out that our research portfolio is woefully unbalanced. No other federal research agency channels anything approaching 95% of its funding through large, durable institutions. In fact, I'd go so far as to say that under these circumstances OERI doesn't really qualify as a research agency; it is more accurately described as a conduit for funds earmarked by Congress for a handful of specified institutional clients.

Any sizable and durable institutional funding arrangement has certain inherent drawbacks. It is apt to favor caution rather than risk-taking; it is apt to foster mainstream thinking rather than bold or iconoclastic ideas; it is apt to be located at an illustrious and well-established institution rather than at a less well-known or newer place; it is apt to be led by the lords and barons of the field rather than by mere knights or foot soldiers. In short, such funding arrangements are not a bad deal for the maintenance of familiar practices, familiar faces, and familiar ideas. However, they are a far-from-satisfactory arrangement for nurturing innovation, imagination, or unconventional approaches. If you share my view that practically the entire field of education needs a lot more of these latter approaches than it has been getting, then you can begin to see why I think it is dysfunctional to rely so heavily on a handful of large, long-term arrangements for research and development.

Yet, as the money for research, evaluation, and dissemination is forced into these institutional channels and as the statistics and assessment part of the enterprise is made organizationally separate from the research part, the research part becomes ever more vestigial. It may be that tomorrow's OERI will most accurately be described as a professional statistics and assessment agency, attached to a small check-writing machine that is programmed annually by Congress to deliver a certain number of checks of a specified size to research centers, regional labs, and ERIC clearinghouses.

This diminished and cramped version of the government's primary education research agency has several major defects. The most obvious I have already alluded to: all kinds of potentially important research and researchers have nowhere to turn for support. Except for a couple of valiant private foundations, OERI has been, to all intents and purposes, the sole place to go with a project or idea that isn't related to the particular mission of a center or lab, that is offbeat or unconventional, or that doesn't deal with a trendy subject. Insofar as OERI lacks the capacity to function in this way (and today it surely lacks that capacity), something of significance is lost to the entire field of education.

> OERI's funding arrangements do not nurture innovation, imagination, or unconventional approaches.

Another inexorable consequence of the current arrangement will be the steady erosion and eventual disappearance of any real professional research competence and intellectual capacity *within* the agency itself. The agency will be effectively lobotomized, since check-writing machines don't need staff members with scholarly credentials, keen intellects, skilled pens, or interesting ideas. The colleagueship between government staff members and professionals in the field will dissipate. A tour of duty in Washington – at least a tour at OERI – will not be a worthwhile experience for scholars and thinkers in education. We have a number of superb scholars and thinkers in OERI today. But why would their like want to come in the future?

What is more, as the agency becomes "wholly owned" by its institutional clients and their congressional godfathers, it loses any real constituency elsewhere. In time it loses its legitimacy and comes to be thought of as "that place that doles out money to 30 or 40 institutions" rather than as an agency that supports the work of able scholars with interesting ideas.

Can this degenerative process be arrested? Or is the disease so far advanced that all we can reasonably hope for is to keep the patient from suffering needless pain? Can the gloomy picture I've painted be fundamentally altered?

It has been this way for quite some time – long before Finn, or Bennett, or Reagan came to town. What gripes and saddens me is that *we* haven't been able to correct the situation. We never quit trying; the budget request for fiscal year 1989 included $8.1 million for research projects, programs, and activities that are not centers, labs, or ERIC clearinghouses. This would have given us a significantly better-balanced research portfolio than today's. But we asked for that in fiscal year 1988, too – to no avail.

I do not believe that another organizational rearrangement would make a difference, and I doubt that the forthcoming change of Administration will make a difference either – no matter who is elected. I think the problems go deeper than the kind that can be solved by moving the furniture around or changing the names of the people sitting on it.

GLOOMY THOUGH I am on this front, something else has been going on in recent years that I find both comforting and alarming, if that is possible. Even as the part of the Education Department that is explicitly devoted to education research has been shrinking, larger and costlier quantities of research and research-like activities have been undertaken elsewhere in ED and in several other agencies.

If we consider all of ED, it turns out that some $123 million was spent on "research and development" in fiscal year 1987, of which OERI accounted for just $28 million. By far the biggest funder of research was the National Institute on Disability and Rehabilitation Research; OERI came second; "education of the handicapped" was third. This means that the Office of Special Education and Rehabilitation Services (OSERS) administered some $73 million in research funds during fiscal year 1987, about 2.5 times as much as OERI did. Other units and programs in ED that spent more than $2 million on research and development were vocational education, bilingual education, the Chapter 1 evaluation, and Gallaudet University. Three other units spent between $1 million and $2 million. When finally totted up, the figures for fiscal year 1988 promise to be still larger.

Mission-related education research is thriving. Unlike OERI, these programs receive appropriations larger than their budget requests. There is also considerable mission- or subject-specific research supported by other agencies. The National Science Foundation is much the largest. The arts and humanities endowments have related projects, as well. And tucked away in various corners of other agencies are projects and studies that at least bear on various aspects of education.

I'm reluctant to settle for an exclusive diet of mission-related education research.

This is good – good for the agencies that get important and needed work done, good for the researchers who have more than one window to line up at, and – in time, presumably – good for the field of education. But mission-oriented research is a mixed blessing. It leaves lacunae, unless one assumes (as I do not) that the missions of the several funding agencies add up to all the significant research that is needed. Mission-oriented research may be singularly unresponsive to novel approaches, to little-known scholars, and to heterodox conclusions. And its quality control may be uneven, because what passes for peer review may entail scrutiny primarily by aficionados of the mission.

Still, we need to recognize that federal support of education research is today most robust in those places where it is labeled not "education research" but rather organized inquiry in relation to specified programs, problems, goals, and missions.

Why this should be so is best explained, I believe, in terms of the utilitarian calculus that practitioners and policy makers typically apply to education research – and the resolute refusal of most researchers to accept this. In spite of decades of effort, our field has not yet succeeded in persuading many people (other than members of the scholarly priesthood) that education research is valuable or worthwhile except in situations in which it is palpably joined (in ways the laity can understand) to "real-life" issues, problems, and dilemmas. Education research has always had to thread its way between the Scylla of the obscure and trivial and the Charybdis of the commonsensical and self-evident. Mission-related research is probably best situated to appear worthwhile, useful, and relevant, yet also a bit mysterious. Because it is nearly always "applied" research, it is also the most apt to be picked up and used by practitioners and policy makers.

Yet I'm reluctant to settle for an exclusive diet of mission-related education research. Significant issues and authentic problems will go unexamined, interesting leads will go unexplored, and countless hypotheses will go untested. Scholars know this, and they are apt to care

TEST
Campbell

"I said that the opposite of daytime *is* prime time, *and she marked it wrong!"*

about it. But who, if anyone, outside the field also cares about such matters?

Here we begin to get to the bad news that I am compelled to bear. Although a handful of thoughtful leaders of education associations are conscientious advocates and sophisticated consumers – Albert Shanker, Scott Thomson, and Samuel Sava come to mind, as do Thomas Shannon and Gordon Ambach – there is no keen appetite "out there" in most of the education world for more or better research. It isn't that people are opposed. Ask them straight out whether they think it would be a good idea to devote more resources to education research, and they're almost sure to say yes. But this is the "motherhood and apple pie" response, and it is not matched by any overpowering impulse to *do* anything – either to see that resources are furnished to support more and better research or to make conscientious use of the results of that research which has already been done.

We need a new way of thinking about education research as it relates to the federal government.

I am not going to belabor this point or try very hard to prove it. It is well understood by everyone in Washington and by practically everyone in the field of education. And it is a situation that hasn't fundamentally changed in decades – except that matters have worsened as it has become clearer that the primary advocates and supporters of education research are education *researchers*.

In this respect education resembles the law more than medicine. So far as I can tell, most legal practitioners and policy makers are largely oblivious to what emerges from the research that is carried out by law school professors. Save for the occasional citation of a law review article that appears now and then in the footnotes to court decisions, the research train and the practice train run on different tracks. And I do not think it coincidental that there is very little government funding of legal research, because its principal consumers appear to be those engaged in its production.

In medicine, by contrast, most practitioners have become conscientious consumers of research findings. So, in many respects, have the general media, the policy-making community, and perhaps even the public at large. Not only do doctors subscribe to and read the research journals in their fields, but I also often hear radio or television news accounts of research findings published in the latest issue of the *New England Journal of Medicine*. When was the last time you heard the network news summarize a study published in the *American Educational Research Journal*? Or, with the possible exception of each year's Gallup education poll, even a study published in the *Kappan*?

It will be said by some in the field that part of my job and part of Bill Bennett's job was to be effective salesmen for education research – so effective that practitioners will begin to fall all over themselves in their eagerness to put its findings into practice, so effective that members of Congress will vie with one another to lavish funds on it. Well, I don't wish to seem defensive or to dwell on this point for too long. But I must assert that we have done what we could to foster the demand for – and the appreciation and use of – education research. We have also labored to obtain additional resources with which to underwrite its production. Perhaps we could have done more, but I'm damned if I know what or how.

There is an assumption among at least part of the leadership of the education research community that the next team to take the field will surely fare better: that they will be less political, more lovable, more inclined to utter mild pleasantries, better disposed toward the education establishment, more kindly toward the academic community in general, or – at the very least – better liked on Capitol Hill. Perhaps this will turn out to be so. And perhaps its being so will lead to a golden age of federal support for education research. If you seriously believe this, however, there are a couple of bridges across the Potomac that you might also like to consider purchasing.

To sit around waiting for the next team to reach the arena is simply naive. The problem education research faces in Washington is not a dearth of advocates in the executive branch, nor is it merely a matter of party affiliation. Consider the recent remarks of William ("Buddy") Blakey, a liberal Democrat, now a senior aide to Sen. Paul Simon (D-Ill.) and formerly the deputy assistant secretary for education legislation in the old Department of Health, Education, and Welfare during the palmiest, most liberal, most Democratic days of the Carter Administration. "If you leave researchers to their druthers," Blakey observes, "they will come up with largely an irrelevant research agenda. Congress still believes educational research is more contemplative of the navel than anything that will benefit education."

I don't think Blakey is wrong, much as I wish he were. I'm not about to bestow any Golden Fleece Awards, but I will admit that I winced a bit when someone recently passed me an education journal article titled "Does Counselor Body Posture Make a Difference?," with the suggestion that it typified education research. However, the important point is not what I think. It is that influential folks on Capitol Hill believe such research to be typical, and those folks will be in office long after I have left mine.

ALL OF THIS says to me that proceeding in the now-familiar mode is not going to yield any dramatic change in the reputation of or prospects for education research. What is needed now is something akin to a paradigm shift. We need a new way of thinking about education research, at least as it relates to the federal government. And I believe that the way may be pointed by the relative success of mission-related research, with its explicit practicality and its inherent appeal to the utilitarian mind.

What if we stopped talking about education research qua research – just stopped talking about it? Let us quietly acknowledge that virtually nobody outside the research community cares much about its fate and that those who do care are unable to do much about it. Let us instead identify the real-world problems that we might be able to help solve, the programs that we might be able to improve with enhanced knowledge and clearer understanding, and the interests with which we might fruitfully ally ourselves. Let us, in effect, redefine the constituency of education research (as OERI has redefined its constituency) to consist in large measure of potential *users* and *consumers*, rather than scholars. Let usefulness and practical value become our dominant criteria. And let them also dictate our funding strategies.

What would that mean in practice? With regard to federal funding, it might mean building into the major "action" programs some modest set-asides (perhaps 1%) for related studies, evaluations, and systematic inquiries. These studies might consider such matters as the issues embedded in those programs that would benefit from experimentation, evaluation, and analysis.

Of course, researchers have no automatic claim to such funds. They would have to make common cause with state governors and chief state school officers, with teacher organizations and school board associations, with state legislators and vocational educators, with [illegible] and superintendents, with [illegible] and community colleges. The [illegible] could be extended, but it is familiar enough. Making common cause with other interested parties carries with it the possibility of becoming passengers on their trains, rather than continually trying to attach an engine to our own caboose.

This is not a new idea, of course. A few years back, the American Educational Research Association (AERA) began conversations with other education groups. It was a good start. But no one has followed through on the effort, and I'm not sure why. AERA has lapsed back into the mode of griping, lamenting, kvetching, and writing letters to Congress.

I don't know for sure that education researchers are willing to pay the price associated with making common cause. It is not trivial. It will mean having much of the research agenda built around practical, real-world issues that are of immediate interest to practitioners and policy makers. It will entail stricter timetables and may even involve meeting deadlines – things neither congenial to the rhythms of scholarship nor compatible with summers in Nantucket. It will mean writing up research results in plain English, drawing their practical implications in even plainer English, publishing findings in journals that have a chance of being seen by practitioners and policy makers – even providing technical assistance to some of those practitioners and policy makers, with their mundane concerns, absurdly tight schedules, and opinionated minds.

This is a prospect that education researchers might find shocking. And that is why I find it entirely plausible that the education research community might choose instead to maintain its purity and preserve its traditional culture, even if that dooms most of its members to relative poverty, obscurity, and irrelevance.

Most of those at the pinnacle of the field will make out okay; so will those with godfathers and those employed by wealthy, illustrious institutions. They will find support for their work from federal sources, or they will find it somewhere else. But they'll endure. Others – younger, less well-known, less well-connected, less well-placed, with more esoteric interests – won't fare so well, unless they are willing to make some of these tradeoffs and take the associated risks.

If the strategy I am proposing succeeds, in time it could also foster a modest rebirth of more fundamental research, tucked away within (and shielded by) the mission-related work. When there is a sizable research enterprise with a solid reputation for usefulness, timeliness, and practicality, it becomes far easier to persuade constituents of that enterprise to devote a fraction of its funds and energies to looking further down the road, laying the groundwork for imaginative solutions to tomorrow's problems rather than grappling only with today's. At that point, a federal agency (or agencies) with a broader, less prescriptive agenda would have a reasonable prospect for success.

There are no guarantees that the "common cause" strategy will work, of course. As I have said, education researchers may want no part of it. Then, too, the prospective allies and beneficiaries may spurn our overtures because the record to date gives them little reason to believe that their energies and resources would be well-invested.

OERI has some relevant (and somewhat heartening) experience to offer, though. Our increasingly close collaboration with such organizations as the National Governors' Association and the Council of Chief State School Officers indicates to me that such joint ventures can be mutually beneficial. I am heartened as well by our ability to work with a network of urban school superintendents and with higher education officials in the states. Similarly, when we publish a "translation" of research into English and thousands of copies are reproduced and distributed by the American Federation of Teachers and by school superintendents in such cities as St. Paul and San Diego, one can sense the appetite for good information, presented clearly.

I find it odd and a little paradoxical that, as OERI has been dwindling, it has also been demonstrating the possibility of renewal and even rebirth. The leaves that fall in the autumn are an augury of buds in the spring. But a long, cold winter is closer at hand. ■

FORD BUTTON

"I hate having to go to school. It breaks my momentum."

An Overview

The articles presented here reflect, in microcosm, a complex and fascinating national debate on the use of educational indicators, according to Ms. Fuhrman, who served as guest editor for this special section.

BY SUSAN FUHRMAN

THIS ISSUE of the *Kappan* carries six articles on educational indicators. All six were written at the request of the Center for Policy Research in Education (CPRE), a consortium of Rutgers University, Michigan State University, Stanford University, and the University of Wisconsin-Madison, which is funded by the Office of Educational Research and Improvement (OERI) of the U.S. Department of Education. The mission of the CPRE is to improve the quality of schooling through research on state and local policy. One of the goals of the CPRE has been to encourage discussion of the technical and political issues associated with measuring educational progress. Consequently, we asked authors with differing perspectives on the rapidly spreading movement toward the use of educational indicators to contribute to this special secion. The articles presented here reflect, in microcosm, a complex and fascinating national debate.

Marshall Smith's introductory article provides a general look at the development of educational indicators in the U.S. Smith defines indicators and indicator systems; he also discusses the issues that make the development of indicators so challenging: the gaps in our knowledge with regard to measuring and relating key elements of the educational system and the politics involved in measurement decisions. Smith concludes with a controversial assessment of the concept of a national test, in light of the current limits of our ability to measure educational outcomes.

Ramsay Selden approaches the issue of indicators from the perspective of one who toils in the fields of state-to-state comparison. As director of the State Education Assessment Center of the Council of Chief State School Officers (CCSSO), Selden reports on the CCSSO's effort to develop a set of standardized measures, a difficult task filled with daily surprises. As Selden points out, states differ even on such fundamental elements as the definition of a school. Unlike Smith, Selden endorses the concept of a national test; he also describes how states can agree on what such a test should cover.

In the third article in this special section, Craig Richards, who has studied state efforts to track educational progress, considers what happens when states use indicators to hold school districts accountable. He suggests that there are three major approaches to accountability: monitoring of compliance, monitoring of performance, and diagnostic monitoring. Each approach requires unique kinds of information.

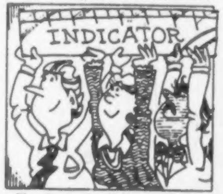
The next two articles take a cautionary stance toward the indicator movement. Jane David argues that local policy makers need to develop their own indicator systems, in order to avoid misuse and distortion and to truly benefit the schools. She maintains that indicator systems developed without local participation pose more risks than benefits. Andrew Porter takes the argument a step further. He asserts that indicators – and all the commotion about them at the state and federal levels – mean nothing to teachers. However, if teachers were to participate in designing indicators relevant to their work, those indicators could reflect a consensus among professional educators about the goals and purposes of education, serve as a tool to help teachers think about teaching, and boost teacher status and authority.

EDUCATION EXPRESS

Illustrations by [illegible]

Developing indicators is tough work. It is technically and politically challenging. It is threatening to those who are not directly involved but who are likely to be affected.

The final article in this special section, by Richard Murnane and Edward Pauly, provides some comfort – though it may be cold comfort. Murnane and Pauly assert that indicators of unemployment (which are among the most widely used indicators) pose many of the same problems as indicators in education. But they also point out that, because those who define indicators in both fields have drawn on technical advances and exercised patient political skill over time, our understanding of both fields has improved. There is hope, they say, in persistent efforts to develop educational indicators.



The Center for Policy Research in Education plans to continue to link various projects on indicator development and to provide state and local policy makers with information as it becomes available.* Indicators are likely to generate considerable debate and controversy over the next several years. The CPRE hopes that the articles that follow will illuminate the discussion. ▣

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*Three reports on indicators are currently available from the Center for Policy Research in Education. *Improving Education with Locally Developed Indicators*, by Jane L. David; *Indicators of Reading Education*, by John T. Guthrie; and *Standardizing School Dropout Measures*, by Patricia A. Williams, can be obtained by writing to the Publications Department, Center for Policy Research in Education, Eagleton Institute of Politics, Rutgers University, New Brunswick, NJ 08901. The price is $4 each for single copies and $3 each for 25 copies or more. Please send your payment with your order. A fourth report, *Educational Indicators: A Guide for Policymakers*, by Jeannie Oakes, can be obtained by writing to the Publications Department, RAND Corporation, P.O. Box 2138, Santa Monica, CA 90406-2138.

Educational Indicators

What are educational indicators? Why have they captured the attention of so many policy makers and organizations? And what can we expect in the future? Mr. Smith offers some answers.

BY MARSHALL S. SMITH

HARDLY AN educational group or agency at the national or state level has *not* become involved in the business of educational indicators during the 1980s.[1] The Center for Education Statistics (CES) of the U.S. Department of Education has revised its yearly *Condition of Education* to focus on indicators; the CES also publishes *Elementary and Secondary Education Indicators in Brief*, as well as Secretary William Bennett's "wall chart," which compares states by means of a variety of educational indicators. The National Research Council (NRC) of the National Academy of Sciences has published one book on indicators, and another is on the way. The National Science Foundation (NSF) has funded projects by the RAND Corporation, the University of Wisconsin, and other institutions aimed at developing and compiling indicators of quality in math and science education.

The Council of Chief State School Officers (CCSSO) has adopted a resolution calling for a national system of standardized indicators and has established a center to carry out the resolution. In addition, many states have begun using their own indicators to monitor recent education reforms.[2]

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SCHOOL

What are educational indicators? Why have they captured the attention of so many policy makers and organizations? And what can we expect in the future?

DEFINITIONS

Most commonly, an educational indicator either assesses or is related to a desired outcome of the education system or describes a core feature of that system. In addition, an indicator should provide information that is feasible to gather, valid, and useful for making policy decisions.[3] It's easy enough to spot an educational indicator, though interpreting it accurately is often a bit more difficult. Some popular examples of indicators are: 23 million American adults are illiterate,[4] one-third of American adults are illiterate,[5] the dropout rate is 16%, over the last 10 years the dropout rate has stabilized at roughly one-fourth of American youth, and average scores on the verbal section of the Scholastic Aptitude Test (SAT) have declined by some 40 points over the past 20 years.[6]

An educational indicator is generally expressed as a number. It is intended to tell us something useful about the nature and health of education, whether at the national, state, local, school, or classroom level.

An indicator must also have a point of reference to give meaning to the number. A percentage has reference points of zero and 100. Comparisons over time offer dates as reference points; comparisons among institutions, states, or nations have built-in reference points, as well. The statement that "one-third of American adults are illiterate" assumes that readers know that there are about 150 million American adults. Many indicators require more than one reference point. A decline in SAT scores of 40 points over 20 years tells us more than a simple statement of the magnitude of the decline. With the addition of reference points, indicators become more meaningful, more precise, and more useful. In addition to points of reference, indicators assume some common understandings – the concepts of illiteracy, dropout rate, and SAT score, for instance – whether or not such assumptions are justified.[7]

DEVELOPING INDICATORS

How do we go about developing a manageable, parsimonious, and useful set of indicators? Indicators are designed to reflect the health and efficiency of an education system and to point the way toward its improvement.

To develop a set of indicators that does these things requires an image of a fully functioning system. Any education system at whatever level can be thought of as made up of three parts: *inputs and resources*, *processes*, and *outcomes*. All three are connected through relationships that are direct and indirect, unidirectional and reciprocal, and causal.

Thinking of an education system in this way helps guide the selection of indicators. We might develop indicators to reflect such inputs as the experience of teachers, the teacher/pupil ratio, and the prior knowledge of the students. We might develop such process indicators as measures of the quality of the curriculum and of the time spent in instruction. We might develop such outcome indicators as student scores on achievement tests or a measure of student attitudes. The list could be expanded almost indefinitely. If the image of the education system and the indicators are valid and if the data are gathered regularly, we are well on our way toward monitoring the quality and efficiency of the education system.

It is no simple matter to develop more useful, accurate indicators in education, nor to report results.

An elaborated system of valid indicators in place over a period of time would be of tremendous value to policy makers, for it would allow them to anticipate changes in educational outcomes, rather than merely describe them. If in the late 1960s, for example, we had had a series of longitudinal indicators of the coherence of the high school curriculum, we might have predicted that increasing fragmentation of the curriculum would bring about a decline in SAT scores (assuming that the coherence of the curriculum is related to student achievement and that SAT scores are valid and reliable indicators of student achievement).

Likewise, it would have been helpful if we had collected over time and analyzed achievement test scores that distinguished between lower- and higher-order thinking skills. Had we done so, we could have better understood the test score decline and perhaps forestalled our national emphasis on a limited conception of basic skills.[8] Or take a more recent example: an indication of the proportion of students retained in the elementary grades might help us predict future dropout rates.[9] On a less complex level, a reasonable model and an appropriate understanding of the supply of and demand for teachers might have helped us avoid the false teacher shortages of the late 1960s and early 1980s.[10]

What a lot of ifs! Measuring the quality and quantity of teachers is a big enough problem. A useful model of our education system must be able to assume with some confidence that the number and quality of teachers relate to our measures of student outcomes. Unfortunately, our track record in developing valid models of education systems is weak at best, rivaled perhaps by the inability of economists to predict the future of the economy.[11] We have not even been able to agree on such "simple" system components as which outcomes we prefer.

THE SITUATION TODAY

There are many reasons for the present dramatic surge of interest in educational indicators.[12] First, analysts and policy makers have grown increasingly frustrated with the quality of existing national data.[13] The authors of *A Nation at Risk* used estimates of literacy rates that were almost a decade old (and that had already been heavily criticized by a government publication), and they had to resort to international comparisons of school achievement that were decades old.[14]

Second, a new aggressiveness on the part of the federal government publicized the problems of American education and pointed the finger of accountability.[15] The "wall chart," first released in 1983 by then Secretary of Education Terrel Bell, broke little new ground in the use of data, but it directly highlighted for the first time the differences among the states. The coverage given by the press to the "wall chart," the clear intention of Secretary Bennett to continue publishing it yearly, and certain states' valid claims of unfairness spurred the CCSSO to undertake its own effort to define and oversee the national collection of representative data on education in the states.

A third reason for the recent interest in indicators reflects the national interest in school reform in general and in the reform of mathematics and science education in particular. During the early 1980s the NSF discovered that we lacked data to judge what to reform or to tell whether our reforms were effective.

Since then, a chapter on the quality of mathematics and science education has been added to the annual report of the National Science Board. In addition, the NSF has commissioned the National Research Council (NRC) to report on the quality of indicators in mathematics and science education and to make recommendations for improving the data. It has also funded other projects in planning and in data collection. While the tighter focus and sustained funding of the NSF effort has probably put it further along than efforts in other fields, it is intended only to paint a national picture; it will not provide data for individual states.

At the state level, the results are mixed. Some states – such as California, Connecticut, Illinois, and New York – have long gathered comprehensive data. These states might be influenced by the current indicator movement, but they have already set their directions.[16]

A second group of states, particularly those in the South, have maintained less comprehensive data-gathering systems. But recent reforms in these states have focused increased attention on improving the quality of education. As a result, some of these states, such as South Carolina, have developed new systems of indicators to monitor their progress. In a third group of states, the involvement of state departments of education in the work of the CCSSO is probably the only activity directly related to developing and using accurate indicators.[17]

PROBLEMS IN DEVELOPING INDICATORS

It is no simple matter to develop more useful, accurate indicators in education, nor to report results. Roadblocks fit into either or both of two categories: technical and political.

Technical problems. Two technical problems remain prominent. First, our knowledge base is not adequate. It cannot support the development of indicators based on a substantiated model of the education system. Indicators are based partly on scientific knowledge, partly on common sense, and partly on politics. It would be nice to have scientifically agreed upon models of education, but don't hold your breath until we have them.

A second set of technical issues concerns the development of indicators in areas in which theory and empirical knowledge are weak. The writers whose works the NRC collected in its second book on indicators struggled with a large number of conceptual and technical issues as they formed their agendas for developing new indicators to assess such complex factors as the quality of teaching, the quality of the curriculum, and students' higher-order thinking skills.[18]

WALL CHART
PreSS
PreSS

Illustration by Mike [illegible]

Political problems. Agreeing on goals is a time-consuming and complicated political process. Defining a model system of education depends initially on choices among outcomes. What do we want of the system? Monitoring minimum competency in mathematics or in reading would require indicators quite different from those needed for assessing competence in writing or in solving complex problems in mathematics and science. Indicators developed to monitor dropout prevention would be quite different from those needed to monitor preparation for college. Political agreement on educational goals is a simple matter only at high levels of abstraction; when concrete decisions must be made, disagreement is more typical.

A second political problem stems from incentives and disincentives for making the public aware of various kinds of information. As Patricia Williams and others have pointed out, techniques for measuring dropout rates vary from district to district, usually because of efforts to minimize the problem in public reports.[19] Some school districts report only percentages of dropouts per high school per year, rather than percentages over the four years of high school. The former practice produces numbers between 3% and 5%; the latter produces numbers between 12% and 20%. Some districts do not count as a dropout any student who has not directly informed the school that he or she does not intend to return. The technical know-how exists to standardize the definition of *dropout* and to collect uniform data. But agreeing to a standardized definition is a political problem, and the same holds true for many other indicators, including attendance rates, teacher turnover, and course enrollments.[19]

Just as political is the impulse to measure educational quality and to hold people and institutions accountable for the results. Without question, publishing comparative information about educational quality can bring to bear on institutions tremendous political pressure to improve. But this pressure also produces some measurable pressure on schools to make results look better than they actually are – or even to pervert the reporting system.

PROBLEMS OF COMPARISONS

Comparing states, localities, or agencies with one another highlights a variety of technical and political problems. State agencies and the press have been comparing local schools on student outcomes and other factors for a long time – never satisfactorily. The urge to compare states, which predates the first "wall chart," is vividly evident in the recent report of a study group on assessing student achievement appointed by the U.S. Department of Education.[21] The problem of comparison is particularly acute for student achievement. For one thing, the backgrounds and characteristics of students in different states are substantially different. What kinds of statistical adjustments for student characteristics make the most sense? What does it mean to say that two states or two communities are equal or unequal on "adjusted" outcome scores?

Another part of the problem concerns whether to use a common achievement measure across all states or to build statistical bridges for comparison of scores on state-specific tests already in use. Proponents argue that the statistical comparison would save money for the states, preserve their autonomy in test selection, and allow them to continue their own measurements. Both the CCSSO and the CES have explored the statistical problems that this approach would involve. But it is doubtful that even the statistical wizardry of item response theory can make it work.

The use of a common test in all states has drawbacks, too. But at least it seems to have the advantage of presenting fewer technical problems. Still, administering a valid and robust assessment device to adequate, representative samples of 51 different populations (the nation as a whole and each of 50 states) for each grade level to be tested presents a formidable challenge. Some of these problems are discussed in an appendix to the Department of Education report on assessing student achievement; others are made clear by reading the technical reports from the Educational Testing Service on the National Assessment of Educational Progress (NAEP), which has only a single, nationally representative sample for each grade level to worry about. The task is further complicated by the need to insure that specific data are indeed comparable among states at a given time.

And again, comparisons create political problems. No institution likes to be compared with another if the comparison is likely to make it look bad. Because there can never be a completely satisfactory method of adjusting for differences in the social, cultural, and economic backgrounds of students from different locales, states that "look bad" will always be able to complain, legitimately, that the deck is stacked against them. Comparing trends within states over time helps, but it still does not fully solve the problem.

Comparisons of educational results from state to state already make headlines. Those state officials who do not see it in their interest to be compared with others could quite possibly derail efforts to standardize definitions and measures and otherwise make it difficult to carry out valid comparisons.

WHAT THE FUTURE HOLDS

The growing use of educational indicators might take any of a number of directions, as different state and local educational units and various agencies within the federal and state governments follow their own agendas. The safest bet is that the movement will stimulate marginal but productive changes in the data-gathering practices of the federal and state governments.

Indeed, it has already done so. The recent efforts of the CES, the CCSSO, and others to standardize definitions, measurements, and procedures at the state level have already borne fruit. The work of the NRC and the NSF to improve national data on the quality of math and science education has enriched our understanding of the use of indicators in policy making and alerted us to the problems of designing indicator systems. Finally, the emphasis on coherent, parsimonious, and useful sets of indicators has improved federal and state collection of data.

A second possibility is that an organized, two-tiered approach will evolve that will integrate federal and state efforts to collect data. On the first tier, core data would be gathered regularly in every state, using common methods and formats; this would provide a picture of the nation's educational health. A second tier of data collection would be specific to the particular needs of individual states.

To some extent this structure already exists. Expanding it will require continued technical improvements and substantial and sustained coordination among the levels of government. More important, it will require each state to develop a useful and feasible indicator system tailored to meet its own needs. State legislators, state departments of education, governors, local school representatives, organizations of teachers and administrators, and the press ought all to have a hand in the design of specific state systems. Each of these groups would need to understand how the data can help them meet their own responsibilities, for the viability of any system of indicators depends greatly on the extent to which the data are used.

The notion of a coordinated nationwide data collection system will stimulate the drive for a national test with samples representative of the various states. A proposal to expand the NAEP to include state-representative samples is now before the Congress.[22] This proposal was developed by the Department of Education study panel on assessing student achievement and has the support of the Reagan Administration and of a wide variety of education groups. It would provide data suitable for state-by-state comparisons of educational achievement, but there would be no further administrative use of the test results.

A national system of indicators will not generate much interest if it does not include an assessment of student achievement suitable for making state-by-state comparisons. The momentum for this development appears too strong to be stopped. Nevertheless, the movement should be slowed.

We already have a national achievement test in the NAEP. Although the program is badly underfunded and there is reason to believe that it suffers from some important technical difficulties, the difficulties will not be resolved by expanding the task. Before we add 50 state-representative samples to a national test, we should demonstrate solid success in a solely *national* assessment. Moreover, we should take time to consider our purposes, the nature of the instruments we wish to use, the potential costs, and the direct and indirect effects of the practice. And we should not scrimp on the time and money needed to design, develop, and maintain such an assessment. For, once under way, it will be practically impossible to change direction.

NY
OHIO
UTAH
TEXAS
KY
NATIONAL TEST

Illustration by Mike Smiff

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1. There is even considerable international interest in educational indicators, as illustrated by a joint U.S./OECD (Office for Economic Cooperation and Development) meeting on "Educational Indicators," which was held in Washington, D.C., in November 1987.

2. See *The Condition of Education: A Statistical Report, 1987 Edition* (Washington, D.C.: U.S. Department of Education, 1987); and *Elementary and Secondary Education Indicators in Brief, 1987* (Washington, D.C.: U.S. Department of Education, 1987). Both of these documents are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The "wall chart" is officially called *State Education Statistics: State Performance Outcomes, Resource Inputs, and Population Characteristics* (Washington, D.C.: Secretary's Office, U.S. Department of Education, 1987). See also Richard Shavelson et al., *Indicator Systems for Monitoring Mathematics and Science Education* (Santa Monica, Calif.: RAND Corporation, R-3570-NSF, August 1987); and Senta A. Raizen and Lyle V. Jones, eds., *Indicators of Precollege Education in Science and Mathematics: A Preliminary Review* (Washington, D.C.: National Academy Press, 1985).

3. For discussions of criteria for selecting indicators, see Jeannie Oakes, *Educational Indicators: A Guide for Policymakers* (New Brunswick, N.J.: Center for Policy Research in Education, Rutgers University, 1987); Shavelson et al., *Indicator Systems* . . . ; and Raizen and Jones, *Indicators of Precollege*. . . .

4. National Commission on Excellence in Education, *A Nation at Risk* (Washington, D.C.: U.S. Government Printing Office, 1983).

5. See Jeanne S. Chall, "Adult Literacy: New and Enduring Problems," *Phi Delta Kappan*, November 1987, pp. 190-97.

6. *The Condition of Education, 1987*, p. 28. The 16% dropout rate that is often cited is from the High School and Beyond survey and is an estimate of those students who drop out after reaching 10th grade. The one-quarter estimate reflects the high school completion rates found by the Current Population Surveys of the U.S. Census.

7. See, for example, Charles Cooke, Alan Ginsburg, and Marshall S. Smith, "The Sorry State of Education Statistics," *Basic Education*, January 1985, pp. 3-8.

8. For a discussion of possible causes of the test score decline, see Daniel Koretz, *Educational Achievement: Explanations and Implications of Recent Trends* (Washington, D.C.: Congressional Budget Office, 1987). Both Koretz' report and the article by Richard J. Murnane and Edward W. Pauly ("Lessons from Comparing Educational Indicators and Economic Indicators," pp. 509-13, this *Kappan*) suggest that a variety of outcome indicators are often useful in working through such puzzles as the SAT score decline. It would also be useful to have had systematic indicators of some of the probable causes of the decline.

9. See the various articles that deal with dropouts in the spring 1986 issue of *Teachers College Record*. See also Steven Selden, "Promotion Policy," in Harold Mitzel, ed., *The Encyclopedia of Educational Research* (New York: Free Press, 1982), vol. 3.

10. In *Indicators of Precollege*. . . , Raizen and Jones discuss the problems of estimating teacher shortages.

11. On the problems of economic indicators, see Murnane and Pauly, "Lessons from. . . ."

12. There were other times when interest in educational indicators was high. A useful reference is Olav Magnussen and Roy Carr-Hill, *Indicators of Performance of Educational Systems* (Paris: OECD, 1973).

13. See Cooke, Ginsburg, and Smith, "The Sorry State. . . "; and Lawrence Stedman and Marshall S. Smith, "Recent Reform Proposals for American Education," *Contemporary Education Review*, vol. 2, 1983, pp. 85-104.

14. See Stedman and Smith, "Recent Reform Proposals. . . ."

15. Although federal funding for elementary and secondary education collapsed during the early 1980s, dropping from 9.8% of public school revenues in 1979-80 to 6.4% in 1985-86, the federal presence in debates about the general quality of K-12 education increased dramatically with the publication of *A Nation at Risk*. The figures for federal funding of K-12 education are from *The Condition of Education* . . . , p. 36.

16. For an example of the thinking in Connecticut, see Pascal D. Forgione, Jr., and Joan Boykoff Baron, "Can Reporting on Educational Indicators Serve as a Catalyst for the Improvement of Educational Achievement? A Visionary Exploration," paper prepared for the 1987 Joint Statistical Meeting of the American Statistical Association Conference, San Francisco, August 1987.

17. For a discussion of the activities of the CCSSO, see Ramsay W. Selden, "Missing Data: A Progress Report from the States," pp. 492-94, this *Kappan*.

18. Richard Murnane and Senta A. Raizen, eds., *Improving Indicators of the Quality of Science and Mathematics Education in Grades K-12* (Washington, D.C.: National Academy Press, 1988).

19. Patricia A. Williams, *Toward a Definition of School Dropout* (Madison: Center for Policy Research in Education, Wisconsin Center for Education Research, University of Wisconsin, 1987).

20. The CCSSO project on indicators, in conjunction with the Center for Education Statistics, has made a substantial effort to minimize these problems among the states. See Selden, "Missing Data. . . ."

21. Lamar Alexander and H. Thomas James, *The Nation's Report Card: Improving the Assessment of Student Achievement* (Cambridge, Mass.: National Academy of Education, Harvard Graduate School of Education, 1987).

22. A second proposal for a national test is less likely to be enacted. It emanates from the Senate and calls for a national test for 11th-graders, who would receive a certificate upon passing the test. In this way it would be akin to the New York Regents Examinations. This would be a very different kind of test, for it would be more than an indicator of school and statewide student achievement. It would have direct consequences for students.

Missing Data:

A Progress Report From the States

The close scrutiny of U.S. education that began with A Nation at Risk *revealed huge gaps in our information about schools and schooling. Mr. Selden reports on the current efforts of the chief state school officers to fill in the blanks.*

BY RAMSAY W. SELDEN

PERHAPS THE most alarming outcome of the scrutiny of U.S. education that began with *A Nation at Risk*[1] was the revelation of how little we knew about our own schools and schooling. The National Commission on Excellence in Education, which had been charged with developing that report, and the critics and commentators who followed had to struggle to obtain basic facts about the breadth and quality of schooling in the U.S.

For example, the Commission on Excellence had to conduct a special study of transcripts to find out what courses students took in high school. Members of the commission had posited, quite reasonably, that downturns in achievement might be related to fewer course requirements in core subjects, but solid information to substantiate or disprove that proposition was not – and still is not – collected regularly. *A Nation at Risk* is a compendium of what little could be said about U.S. education with any authority at all. Among the indicators that were unavailable to the writers of that report were:

- recent international comparisons of student achievement in certain key subjects, including science and mathematics;
- state-by-state comparisons of student achievement (even though educational policies and decisions were increasingly being made at the state level);
- direct measurements of teachers' ability to teach (instead of proxies, such as high school test scores and college grades); and
- measures of inputs to schooling that could help explain certain problems.

Underlying such striking gaps in the data is a foundation even less sound than it appears. We presume that such basic statistics as enrollments, graduation rates, number of public schools, and staffing levels (to name only a few) are fairly accurate and consistent. In reality, until 1987 the various states used at least 10 different ways to count schools and about a dozen different ways to report enrollments.[2] One state counted various special programs as public schools, for example, while a neighboring state did not. The special programs accounted for about 10% of the schools listed by the first state. The states have also differed on when in the school year to count enrollment and on whether to record a net or a cumulative total. One large state included participants in public school preschool programs in its enrollment figures, while another large state did not. The preschool participants numbered in the hundreds of thousands.

Fiscal information reported by the states and local school districts is too minimal to be of much help in explaining where school funds are spent. In addition, each state and most local school districts are virtually unique in the methods they use to compute their dropout rates.

IN A DRAMATIC position statement in 1984, the chief state school officers acknowledged the responsibility of the states for this situation and recognized the need to remedy it. The various reports on school reform of the early 1980s had clearly driven home the message that the public cared about the quality of its schools and would use any available information to monitor their performance. So the chief state school officers decided to reform the information base.[3] Their plan included some surprises. For example, the states would initiate the push for state-level comparisons of student achievement. Each state would also strive to develop a comprehensive, accurate, and timely reporting system. The approach adopted by the Council of Chief State School Officers (CCSSO) was designed to further these goals on several fronts.[4]

> The public cares about the quality of its schools and will use any available information to monitor them.

First, the CCSSO developed a model that organized educational indicators into a reporting system as valid, constructive, and comprehensive as possible. Policy makers had expressed concern about using invalid measures, such as Scholastic Aptitude Test and American College Testing Program scores, to monitor schools. They had also questioned any orientation that focused on bottom-line outcomes, such as student achievement, without interpreting the data in constructive ways that would lead to school improvement. Consequently, the model developed by the CCSSO made it possible to interpret *educational outcomes* in relation to the *context* in which schooling takes place in the various states and in relation to those *educational policies and practices* that could be changed for the better.

According to the model, each state will compile and report the following outcome indicators: 1) attendance, 2) student achievement, 3) the school completion rate, and 4) the status of students after completing elementary and secondary schooling.

Contextual factors to be reported by each state include: 1) the size and complexity of the statewide school system, 2) demographic data, 3) fiscal and other resources that are available to the schools, and 4) the number of students with special needs (those from low-income families, those with limited proficiency in English, and so on).

Inputs include those educational policies and practices related to: 1) time devoted to instruction, 2) content of the instructional program, 3) school effectiveness, 4) teacher preparation and certification, 5) characteristics of the teacher workforce, 6) the allocation of fiscal and other resources, and 7) policies on the ages at which students enter and at which they can legally leave school.

Once the model was developed, the states began the task of amassing these indicators. First they established ground rules governing the importance, the utility, the technical quality, and the accuracy of each kind of information (including its validity and its consistency across states). Then they began to collect the information or to compile it from existing sources and to get rid of inconsistencies or other defects in their databases.

Much of the information on contextual factors was available from existing sources, including the U.S. Census Bureau, the Center for Education Statistics, and the U.S. Advisory Commission on Intergovernmental Relations. The comprehensiveness, consistency, and technical adequacy of basic statistical data on such things as enrollments, staff characteristics, graduation rates, and expenditures are being addressed by the Center for Education Statistics, which has contracted with the CCSSO to undertake this task.

Data on such state-level policies and practices as teacher testing and course requirements for high school graduation are being collected through an annual survey of the states. Information on expenditures, course enrollments, teacher characteristics, and other factors will augment the survey findings as these kinds of data become available in a form that meets the CCSSO's standards of quality.

If possible, data on student achievement will be collected as part of the National Assessment of Educational Progress (NAEP). The chief state school officers chose the NAEP as the best means of collecting such data because the program is public, it is already recognized by citizens and policy makers, and it relies on consensus among the states to determine the subject matter to be tested.

BY 1986 STANDARD definitions and procedures had been developed for reporting student enrollments and for listing public schools.[5] Those definitions and procedures were adopted in most states for use during the current school year. This year, for the first time, we will have consistent data on the number of public schools and the number of students in them. Fiscal data will be reformed in a similar fashion in 1989, as will data on staffing and attendance in 1990.

STATE WEALTH
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In November 1987 the CCSSO released its first report on the educational indicators included in its model.[6] The report emphasizes demographic and fiscal factors that establish the context for education, including the school-age population in a given state and the ways in which it is changing, the number of school districts and their average size, the socioeconomic characteristics of the state's population, the level of fiscal resources available to education, and the proportion of students in the state from low-income backgrounds. The report shows how data can be used to compare states – stratifying them, for example, according to the level of gross state wealth per school-age child. It also describes basic program policies and practices at the state level. The report con-

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Illustrations by [illegible]

tains no information on educational outcomes, because available data did not meet the CCSSO's standards for validity and consistency across states.

When outcome data are contained in future reports they will be presented in conjunction with background factors, so that chief state school officers and others can determine:

- how their states are doing in absolute terms, in relation to other states, and in relation to current trends;
- how their states are doing in relation to other states that are facing similar circumstances or that are attempting to accomplish similar goals; and
- how the performance of their states might be related to certain program features that seem – in other, similar states – to make a positive difference.

The 1987 CCSSO report is the first in a series of annual reports that will, over time, contain additional information as the current database is cleaned up, as its contents are standardized across states, and as new efforts to collect data are launched. In 1987 the National Governors' Association published the first of a series of annual reports covering similar information.[7]

The effort to arrive at a consensus among the states on the subject matter to be tested is another first.

REGARDING THE measurement of student achievement, the CCSSO concurred with the recommendation of a blue-ribbon panel chaired by Gov. Lamar Alexander.[8] That panel confronted a basic philosophical question: What role should each level of government play in the assessment of education? The panel concluded that it would be entirely appropriate – as well as desirable, from the standpoint of utility and relevance – to expand the mission of the federally funded NAEP to include the provision of state-level data. This conclusion was important, because it clarified for the first time the role of the NAEP with regard to the provision of such information.

The panel recommended that the states be tested and compared on student achievement, but it also recommended that the states play a much larger role in determining what would be tested and how. In the summer of 1987 the CCSSO joined forces with several other constituencies – including teachers, administrators, school board members, specialists on testing, and representatives of private schools – to arrive at a consensus on the subject matter to be tested in the 1990 NAEP, the first assessment to yield state-by-state comparisons. Mathematics (probably at only one grade level) was chosen for assessment that year.

The effort to arrive at a consensus among the states on the subject matter to be tested is another important first. It involves determining whether the states share any subject matter in common and, if so, what. Heretofore, we have not really known how much commonality there is among the states in curriculum policies and emphases.

The process being used to arrive at a consensus involves 1) an objective content analysis of commonalities and differences among the states and 2) the use of committees to resolve differences and determine priorities. The recommendations that the CCSSO consortium project produces on subject matter to be covered and procedures for conducting the assessment will be forwarded to the Center for Education Statistics for incorporation (if appropriate) in the 1990 NAEP. Legislation is now under consideration that would enable the NAEP to conduct state-by-state assessments, as the blue-ribbon panel chaired by Gov. Alexander recommended. In the future, the states and other constituencies will share in the governance of the project, establishing its boundaries and priorities and implementing the approaches that the CCSSO is now testing for establishing the direction of the assessment and arriving at a consensus on its content.

Observers wonder whether, in planning future assessments, the states and other participants will settle for "least common denominators" – those minimal threads that are common to all state and local curriculum policies. Or will they instead agree to use the state-by-state assessments to move practice forward? In 1986, looking ahead to this basic political choice, the states affirmed resoundingly that achievement measures should reflect a broad, ambitious notion of the subject matter to be learned.

Given the efforts that are now under way to produce state-level statistics on education, policy makers should have available to them by 1991 or 1992 a set of indicators that:

- comprehensively reports the accomplishments of the U.S. system of education;
- accurately describes the conditions under which education takes place in each state; and
- suggests links between educational outcomes and inputs that are under the immediate control of state-level policy makers.

This accomplishment will require a sustained effort by the education, assessment, and data-gathering communities over the intervening years, and no one should expect glory for their work. But the outcome will be worth it: access to important data that were missing in the past.

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1. National Commission on Excellence in Education, *A Nation at Risk* (Washington, D.C.: U.S. Government Printing Office, 1983).
2. Council of Chief State School Officers, "School and Student Classifications for Universe Data Files" and "Variations in Definitions and Procedures for Student Counts: Enrollment, Fall Enrollment, Membership, and Average Daily Membership," reports of the Education Data Improvement Project, Contract No. 300-85-0146, Center for Education Statistics, U.S. Department of Education, 1986.
3. Council of Chief State School Officers, *Education Evaluation and Assessment in the United States* (Washington, D.C.: CCSSO, 1984).
4. Council of Chief State School Officers, *Report of the Committee on Coordinating Educational Information and Research* (Washington, D.C.: CCSSO, 1985).
5. Council of Chief State School Officers, "Summary: Recommendations for Improving the National Education Statistical Database," report of the Education Data Improvement Project, U.S. Department of Education, Center for Education Statistics, Contract No. 300-85-0146, 1986.
6. Council of Chief State School Officers, *Education in the States – Volume I: State Education Indicators, 1987* (Washington, D.C.: CCSSO, 1987).
7. National Governors' Association, *Results in Education, 1987* (Washington, D.C.: NGA, 1987).
8. *The Nation's Report Card: Improving the Assessment of Student Achievement* (Cambridge, Mass.: National Academy of Education, 1987). K

Indicators and Three Types of Educational Monitoring Systems:

Implications for Design

Governors, legislators, state departments of education, and school leaders continue to disagree about the goals of monitoring – and hence about which form the monitoring should take, according to Mr. Richards, who provides some helpful guidance.

BY CRAIG E. RICHARDS

IN TODAY'S climate of reform, state departments of education face persistent pressure for better information. For example, *Time for Results: The Governors' 1991 Report on Education*,[1] called for:

- reward systems that recognize real differences in the function, competence, and performance of teachers;
- reward systems for schools that demonstrate educational progress; and
- a system of "educational bankruptcy" for schools that fail to make progress toward new standards.

Regardless of their source, calls for accountability are implicitly calls for more and better information about the educational status of the schools and of the children they serve. I will identify here the common problems that state leaders face when they attempt to collect and report information having to do with the health of their school systems.

This special section of the *Kappan* deals with educational indicators; yet only a few states (e.g., California, Connecticut) are currently publishing their indicators in the manner suggested by the Council of Chief State School Officers.* Most states do use indicators of some kind in their monitoring activities, however. My goals in this article are to clarify the distinctions between indicators and monitoring, to examine the uses and abuses of indicators by the states, and to recommend some ways in which the states can improve their monitoring systems. The observations and recommendations I present here stem from extensive interviews about monitoring practices in 24 school districts in six states, which are part of a long-term study of state education reform conducted by the Center for Policy Research in Education at Rutgers University.

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RELATIONSHIP OF INDICATORS TO MONITORING SYSTEMS

It will be helpful to begin by clarifying the relationship between educational indicators and monitoring systems. In a recent guide for policy makers, Jeannie Oakes defines an educational indicator as "a statistic about the educational system that reveals something about its performance or health."[2] She goes on to identify the key elements of an ideal educational indicator:

1. An indicator has a referent point. The referent may be a previous value, the value of a comparison group, or some socially determined standard.

2. An indicator should provide at least one of the following: information about the education system's performance, features of the system known to be linked with desired outcomes, central features of the system, potential or existing problem areas, or information that is policy relevant.

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*See Ramsay W. Selden, "Missing Data: A Progress Report from the States," pp. 492-94, this Kappan.

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EVALUATION
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3. An indicator should measure ubiquitous features of schooling that are enduring, easily understood, feasibly measured, and generally accepted as valid and reliable statistics.[3]

By these guidelines, a datum is a piece of information used for analysis and, particularly, for decision making. It may be qualitative or quantitative. A statistic is a quantitative datum. Monitoring systems can use data; indicators require statistics. Some examples of indicators are achievement test scores, dropout rates, and the percentage of students taking advanced mathematics courses.

Monitoring is more than an accumulation of indicators. It has three critical components: regular collection of information; evaluation of that information; and, most important, the translation of the findings into institutional actions or sanctions. (I use the word *sanction* to mean either authoritative approval or disapproval.)

Thus monitoring systems are distinguishable from indicator systems. Indicators provide broad political intelligence about the health of an education system. Unlike monitoring systems, they are not intended to be linked directly to a chain of institutional actions. For example, the dropout rate in a given state is an indicator, but a rise or fall in the rate does not lead to a specific institutional response.

By contrast, if a given percentage of students in a school district score below grade level on selected tests of basic skills, the district fails level-one monitoring. In other words, it is the coupling of a statistic with an institutional consequence – the instrumental use of data – that functionally distinguishes a monitoring system from indicators. Tests are often the most important indicators of educational health.

The National Assessment of Educational Progress (NAEP) is one example of a test that has been constructed to serve as an educational indicator. The test is administered to a national sample of students, enabling us to compare how well students are doing in various parts of the nation. The NAEP is not linked to a specific set of policy outcomes. Nor are the results attributable to individual school districts.

That does not mean that policy makers do not respond to the results. The NAEP indicates, for example, the relative levels of literacy and numeracy of students across the nation. Those findings may stimulate policy makers to reexamine the curricula in their states. However, the NAEP is like a thermometer, which indicates body temperature but does not tell us which illness is causing a fever. Similarly, the NAEP does not explain why literacy and numeracy levels vary among the states nor what factors produced those levels.

SELECTING A MONITORING SYSTEM

Monitoring systems for education can be classified in various ways. One approach is to classify them first by their underlying assumptions regarding what motivates educational improvement and then by the objective of the monitoring. When they are classified in this fashion, monitoring systems for education fall into one of three types:

- those that monitor for regulatory compliance,
- those that monitor for instructional diagnosis and remediation, and
- those that monitor for school performance or outputs.

Most states and school districts use combinations of these approaches. However, each tends to emphasize one as its primary approach to monitoring.

Compliance monitoring. The goal of this type of monitoring is to insure that schools meet some predetermined standard. Thus the focus of such monitoring is typically a school or a school district. Monitoring for compliance can involve everything from teacher credentials and the curriculum to school facilities, cafeteria food, athletic eligibility, and school bus engines.

Two characteristics distinguish monitoring for compliance from other types of monitoring. First, this kind of monitoring tends to emphasize school inputs. (Does the district have its teachers' certificates on file? Does the square footage of the high school library meet accreditation standards, given the number of students that the high school serves? Have the fire extinguishers been inspected?) Second, this kind of monitoring seeks to establish a uniformly adequate level of service. A school or district is either in compliance or not in compliance. The standard of compliance is defined by laws, regulations, and administrative codes, and it is enforced through administrative checklists and on-site evaluations.

New Jersey is one state that relies exhaustively on monitoring for compliance. It uses a list of 43 indicators, clustered into 10 categories, to assess the adequacy of the educational program in each school district. Each district is then classified as Level I, Level II, or Level III. Level I districts are certified as satisfactory and are not monitored again for five years. Level II districts are required to submit corrective plans. If a Level II district fails to reach Level I in a subsequent monitoring, it is classified as Level III, making it subject to potential takeover by the state.[4]

Performance monitoring. Like compliance monitoring, performance monitoring has been in use for a number of years. However, demands in the 1980s that the schools be held accountable have renewed interest in this approach. The fundamental assumption of performance monitoring is that organizations in the public sector will become more efficient if they are forced to function in an environment similar to that of the marketplace.

In the marketplace, consumers use information to evaluate the quality of their purchases. By analogy, if parents have better information about how their children's schools compare to other schools, they will pressure weak schools to improve. Meanwhile, if educators have legitimate standards of comparison, they will be more motivated to improve their schools. The goal of performance monitoring, then, is to promote competition among schools and school districts by focusing on school outcomes.

The most common type of performance monitoring is the monitoring of student achievement through norm-referenced tests.[5] Typically, the test scores that are used for performance monitoring are aggregated at the school or district level before comparisons are made.

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Illustrations by Mike [illegible]

Among the 50 states to date, California has the most exhaustive and sophisticated model of performance monitoring. The *Performance Report for California Schools* consists of five major sections. The first four indicate educational quality, and the fifth provides important contextual information on the schools and their students. Among the indicators of quality are:

- statistics on the courses that students take and on graduation requirements;
- 12th-graders' California Assessment Program scores in reading and mathematics, reported by percentages of students who fall at the first, second, and third quartiles and by average scores for each school;
- scores of college-bound students on the Scholastic Aptitude Test (SAT) and on achievement tests in the five most commonly tested subjects, as well as the pass rate of examinees on Advanced Placement tests; and
- data on attendance and on dropping out.

In order to compare schools, a composite index of factors related to the students' backgrounds is computed for each school. The students provide the data on which this index is based. All schools are ranked from high to low according to their composite scores. Each school is then "banded" with the 80 schools immediately above it and with the 80 schools immediately below it in rank. For those schools that rank among the top 80 schools statewide, the total comparison group consists of the top 161 schools; for those schools that rank among the bottom 80 schools statewide, the total comparison group consists of the bottom 161 schools.

Diagnostic monitoring. The assumption on which diagnostic monitoring is based is that school improvement efforts should focus on the individual learner. The goal of diagnostic monitoring is to improve student performance. The instrument of choice in diagnostic monitoring is the criterion-referenced test that has items which are closely matched to the content of the curriculum.

Diagnostic monitoring typically follows this sequence: 1) the students take a pretest to determine their level of knowledge before instruction; 2) the teacher then focuses instruction on those objectives that the fewest students have mastered; 3) the teacher provides seatwork and homework assignments that allow students to demonstrate and practice their mastery of the objectives; 4) the students take a posttest; and 5) the teacher uses results on the posttest to develop a plan for remediation, which includes further instruction, more practice, and another posttest. In theory, every student eventually masters the curricular objectives.

Minnesota, which relies heavily on diagnostic monitoring, is among the two or three states in the nation whose students consistently perform at the highest percentiles on such tests as the National Assessment of Educational Progress. Therefore, policy makers in that state have been reluctant to adopt the kinds of monitoring strategies that various other states embraced after the publication of *A Nation at Risk*. Most Minnesota legislators trust the capability of local school districts to educate the young. They do not want to compare the school districts publicly, and they have resisted statewide testing programs designed to do so. But this does not mean that the state has no interest in monitoring local school districts.

In fact, Minnesota operates a statewide assessment program that piggybacks on a local assessment program. Each Minnesota school district is required to administer annually – at three grade levels – a state-developed assessment test in at least one subject area and to report a summary of the results to the community. Meanwhile, the local assessment program is administered by the state at no cost to the district. The state encourages each district to involve its staff in selecting the assessment instruments to be used, in setting standards, in summarizing the results, in analyzing the results in terms of local criteria and the performance of comparison groups, and in identifying and using resources to improve instruction. Minnesota discourages statewide comparison of local school districts. Instead, the data from assessments in that state are organized and used by local districts to solve educational problems.

EFFECTIVE MONITORING

Clearly, compliance monitoring, performance monitoring, and diagnostic monitoring have differing goals. Compliance monitoring focuses on maintaining specified standards. Performance monitoring focuses on promoting competition and achievement among institutions with similar resources and clients. Diagnostic monitoring focuses on identifying the causes of specific educational strengths and weaknesses. The object to be monitored can be anything from fire extinguishers to test scores. But the data that are collected and the ways in which they are reported should be consistent with the goals of the school system.

Compliance monitoring is a useful strategy when resources are scarce and the goal is to reduce disparities in educational inputs, since it can be used to identify and target substandard schools or school districts. The major limitation of compliance monitoring is that it does not encourage excellence among districts that are above the standard.

Performance monitoring is the appropriate strategy when the goal is to stimulate competition and increase the flow of information about the comparative accomplishments of each school or district.

This kind of monitoring requires sophisticated data-processing equipment and a timely mechanism for getting information back to school communities, so that they can compare themselves with the state average and with districts and schools that have comparable profiles. Because of its technical requirements and the large number of schools or districts needed to create comparable groups, performance monitoring is a strategy best suited for use at the state level (or in a few very large school districts). It is less intrusive than diagnostic monitoring, because it does not require annual testing of students at every grade level and in every subject.

Performance monitoring has two major weaknesses. First, if there are significant disparities in the quantity and quality of inputs among the schools being monitored, inappropriate conclusions about their relative performances can be drawn. Suppose, for example, that District A spends $1,000 per student and raises test scores by 10%, while District B spends $2,000 per student and raises test scores by 15%. The cost of a 1% increase in District A is $100, while the cost of a 1% increase in District B is $133. Thus the program in District A is more cost-effective than the program in District B.

But even the meaning that we assign to cost-effectiveness is not so straightforward. The relative starting points of the two districts may not have been the same. Nor should we assume that each percentage point of increase within a given district was achieved at the same cost. In short, performance monitoring will point out differences in outcomes, but it may be difficult to determine what caused those differences.

Diagnostic monitoring accomplishes what no other monitoring approach can: it identifies for teachers the specific skills and concepts that students have not yet mastered. Diagnostic monitoring is of little use to state-level policy makers who are interested in school accountability. But it is of great use to teachers and principals who are struggling to improve the delivery of instruction and the learning environment. Diagnostic monitoring is best carried out at the level of the district or the school, close to the staff members who will have to take action to solve the problems that this approach identifies.

Confusion about the appropriate uses of information gained through monitoring has created some unnecessary friction between policy makers and school leaders. In the field research conducted as part of its national study of monitoring activity in the states, the Center for Policy Research in Education (CPRE) noted five problems that turned up frequently.

1. **Too much testing.** Most school districts monitor some aspect of student achievement, usually because the state mandates it. However, several respondents expressed concern that school systems might be suffering from test burnout. If local, state, and federal monitoring activities are uncoordinated or functioning at cross-purposes, high school students can find themselves taking the Preliminary Scholastic Aptitude Test, the Scholastic Aptitude Test, and the American College Testing Program examinations for admission to college; a state-mandated minimum-competency test; various Advanced Placement examinations; a state-mandated achievement test; the National Assessment of Educational Progress; and as many as four or five midterm and final examinations in five or six content areas – all within the space of a few months. What are the financial and learning costs of excessive testing, these respondents wondered.

2. **Inappropriate use of data.** The data gathered for purposes of monitoring education – particularly test results – have been used for everything from deciding which schools will receive incentive awards to assigning students to classes. The pitfalls of using SAT scores as indicators of student achievement have been noted repeatedly in the literature on testing, for example. Although the SAT is designed only to predict whether a given student is likely to succeed in his or her first year of college, SAT scores are widely cited by legislators, legislative aides, community leaders, and even school officials as important indicators of effective schooling.

Needless to say, this misuse of SAT scores has not been lost on those staff members in state departments of education who are knowledgeable about testing. It has made some of them cynical about the validity of the accountability movement, and it has motivated others to participate in the CCSSO effort to improve the quality of the indicators used to compare states or school districts.

3. **Evaluation of teachers.** Some states are exploring the use of students' achievement test scores to evaluate teachers. Yet the link between a teacher's talent for teaching and a student's talent for learning can be mediated by a host of factors: school resources, class size, the student's background and mobility, and the quality of the teaching provided by previous teachers, to name but a few. Perhaps no other issue concerns the leaders of teacher unions more. They fear – sometimes rightly – that using students' test scores to evaluate teachers is politically expedient, since tests provide "hard data," whereas evaluations by administrators or other teachers are more subjective and thus more easily contested when they are negative.

4. **Costs.** Monitoring is both time-consuming and expensive. Yet virtually no one interviewed by the CPRE researchers knew the total cost of their monitoring system. Data-collection programs and testing programs frequently overlapped, competed with each other, or provided information that was not fully used.

As states engage in more complex and sophisticated monitoring, it would seem worthwhile for the policy-making community to obtain better information about the real costs of monitoring – including not only the staffing and resources required of state and local units, but also the costs to students in lost class time and a consequently narrower curriculum. It may well be that, beyond a very low level of intrusion, the costs of monitoring exceed the benefits.

5. **Timeliness.** Many states collect and report data on a cycle that makes it difficult for school districts to respond to the results during the following academic year. Typically, districts are unable to redeploy their resources until two years following the release of the information. If monitoring is to alter school practice, data must be available within a time frame that corresponds to district planning cycles.

Governors, legislators, state departments of education, and school leaders continue to disagree about the goals of monitoring – and hence about which form the monitoring should take. Should they conduct compliance monitoring to insure fiscal and regulatory accountability, performance monitoring to guide systematic improvements, or diagnostic monitoring to improve the performance of individual students? Obviously, the three kinds of monitoring can be combined. All too frequently, however, they are combined with insufficient attention to the pitfalls I have identified above.

The education community might be better served if calls for accountability also recognized the fact that the information requirements of the public, of teachers, and of state and district administrators differ. The public wants and needs indicators of educational health. School professionals need to know not only how well they are doing relative to other schools and districts, but why.

Illustration by Mike [illegible]

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1. National Governors' Association, *Time for Results: The Governors' 1991 Report on Education* (Washington, D.C.: NGA, 1986).
2. Jeannie Oakes, *Educational Indicators: A Guide for Policymakers* (New Brunswick, N.J.: Center for Policy Research in Education, Rutgers University, 1986), p. 1. See also Council of Chief State School Officers, "Summary: Recommendations for Improving the National Education Statistical Database," State Education Assessment Center, Washington, D.C., September 1986; Duncan MacRae, *Policy Indicators* (Chapel Hill: University of North Carolina Press, 1986); and Joyce Stern, *The Education Indicators Project in the U.S.* (Washington, D.C.: Center for Education Statistics, 1986).
3. Oakes, p. 3.
4. In 1987, just prior to state elections, the New Jersey legislature defeated a bill aimed at strengthening the provision for takeover by the state. A revised version of that legislation was recently passed by the legislature and signed by Gov. Thomas Kean.
5. As most readers know, norm-referenced tests are intended to tell us how much a given student has learned in relation to other students, whereas criterion-referenced tests are intended to tell us which objectives a given student has mastered. The former are most appropriate when we are seeking indicators of performance; the latter are most appropriately used for diagnostic purposes. For a good discussion of these issues, see George K. Cunningham, *Educational and Psychological Measurement* (New York: Macmillan, 1986). ■

The Use of Indicators By School Districts:

Aid or Threat To Improvement?

Educators must consciously seek to minimize the risks associated with the use of educational indicators, according to Ms. David. Otherwise, the risks could outweigh the benefits.

BY JANE L. DAVID

LIKE ANY other information tool, indicators can contribute to or detract from local efforts to improve the public schools. Their potential to play a constructive role depends on what they measure and how they are used. If they can capture what goes on in classrooms and if they are used by district policy makers who are committed to school improvement, indicators are potentially constructive. But if they cannot capture the quality of instructional practices and if they do not affect local planning and policy making, indicators can be destructive.

Educational indicators have been defined as statistics that reflect the health of an education system and that can be readily and repeatedly collected.[1] In the wake of widespread criticism of public education, the concept of educational indicators has caught the fancy of federal and state policy makers, who need some sense of how well the education system and its individual parts are working.[2] Policy makers want to know whether recent reform efforts have improved the schools

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One risk is that whatever indicators measure is what teachers, administrators, and parents will attend to most closely.

– and if not, why not. At the local level, where education takes place, school district officials and parents also want to know how well the schools are doing.

In theory, indicators can identify weak spots in the education system, suggest a need for changing policy, and point out areas in which more detailed information is necessary. In later years, the same data can be used to assess the success or failure of attempted solutions. In practice, however, indicators offer potential risks as well as benefits.

There are two major risks in the local use of indicators, whether those indicators have been developed locally or by state or federal agencies. First, whatever the indicators measure is what teachers, administrators, and parents will attend to most closely. It is difficult to create indicators that measure instructional content, instructional quality, and those learning outcomes that are most valued. Thus the use of indicators could cause schoolpeople and parents to focus on the wrong things. Second, indicators may not influence local policy making sufficiently to justify the resources expended on them and the costs in lost opportunities that they will exact. These risks must be carefully weighed before indicators are developed for local use.

THE RISK OF MISLEADING MESSAGES

The purposes of indicators have been given a variety of loosely defined labels: accountability, assessment, monitoring, evaluation, guides to improvement, and so on. Whatever their intended use, indicators send strong messages to administrators, teachers, and parents about what is important. Those messages, in turn, influence behavior. That fact can be beneficial (if the message directs attention to factors that affect the quality of education) or harmful (if the message focuses attention on factors that are not related closely to local goals and classroom practices or that are not amenable to change).

As I have already noted, it is difficult to create indicators that are meaningfully tied to instructional content and quality. The challenges – which have been well-documented – include the need for common definitions, for measures that adequately reflect the goals of education, and for methods that insure fair comparisons of widely varying subunits.[2] True, research on schools and classrooms has been able to associate learning with such factors as instructional time, homework, and opportunities to write.[3] But when such concepts are translated into readily obtainable numbers, their meaning is often lost.[4] What matters is not simply the *amount* of instructional time, homework, or writing – but the *quality* of those activities. Instructional time, homework, and opportunities to write are related to learning when students are actively engaged in meaningful activities that are appropriate for them. But active engagement, meaningfulness, and appropriateness are not easy to measure.

The danger of using indicators is that the messages they send to teachers and principals might actually detract from learning.[5] If teachers or schools are assessed and compared on the amount of homework assigned, for example, teachers will feel pressured to increase the number and length of homework assignments. If those assignments are meaningless, however, students will learn little, and they will be alienated from education.

Instances abound of indicators sending wrong messages and becoming ends in themselves, sometimes with dire consequences. For example, one recently implemented indicator of airline performance has raised some thorny issues, though the goal was only to answer a seemingly straightforward question: Which airline has the best record for being on time?

Each airline must now report how many of its flights are delayed more than 15 minutes, a requirement that may cause some airlines to compromise safety and passenger convenience. Delays due to mechanical problems are excluded, but those due to weather conditions are not. Therefore, some airlines are reportedly pressuring their pilots to take off in questionable weather simply to improve the airlines' performance ratings. Because planes are deemed late after a 15-minute delay, airlines have little incentive to minimize delays that have already gone beyond that limit. They have even less incentive to hold flights for passengers from connecting flights that have been delayed. Thus an indicator that was intended to help passengers choose top-performing airlines may actually be thwarted in achieving that goal by the implicit message that it sends to airline personnel: do whatever it takes to look good on the measures.

The selection of students for admission to medical school provides another example of indicators sending wrong messages and becoming ends in themselves. Because admission to medical school depends to a great extent on readily obtainable numbers – one's grade-point average and scores on the Medical College Admissions Tests (MCAT) – applicants strive for the highest grades and test scores. However, the medical profession is now concerned that it has created a pool of physicians who have well-developed technical skills but who lack other, equally valuable (but harder to measure) characteristics: problem-solving ability, understanding of human behavior, commitment to continuing professional growth, ability to put people at ease, and so on.

Clearly, indicators send strong messages that can have effects opposite to their intent. There is no way to guard fully against this risk, but the risk can be turned to our advantage if we carefully select educational indicators that reflect important aspects of schooling. One way to minimize the risk of sending misleading messages is to be certain that we use indicators of learning outcomes that match our learning goals. If comprehending what is read, thinking critically, and being able to solve problems are valued outcomes of education, for example, a score on a standardized test is not a good indicator of learning. Indeed, using that kind of indicator is likely to cause teachers to focus instruction on isolated skills that can be easily measured by multiple-choice test items.

A second way to minimize the risk of sending misleading messages is to consider carefully what would happen if teachers and administrators viewed a given indicator as an end in itself. If local policy makers visualized beforehand how teachers or administrators might go about trying to increase the numerical value of each proposed indicator, they could eliminate those indicators that might prove to be detriments to instructional quality or take steps to keep teachers and administrators from responding in the anticipated ways.

A third way to guard against the misinterpretation and misuse of educational indicators is to involve teachers and principals in the process of choosing them. Such involvement increases the likelihood that indicators will reflect classroom and school practices that teachers and principals can influence or control. If the process of choosing indicators is designed to foster open and honest communication, it will also create opportunities to discuss and clarify the implicit messages and risks associated with various choices.

THE RISK OF NONUSE

The second significant risk associated with educational indicators is that they will have little influence on planning and policy making, serving instead to divert resources and attention away from efforts to improve schools. Studies of the ways in which data are used by policy makers at all levels – and in fields ranging from education to space exploration – demonstrate that data rarely have a direct effect on policy decisions. Rather, data tend to influence policy making in indirect ways – by changing the climate of opinion over time, for example. Yet indicators are expected to yield effects that are more immediate, because they identify current strengths and weaknesses in a system.

Looking at the reasons for the minimal influence of data on policy making suggests some ways to increase policy makers' use of indicators. People generally base decisions on their own beliefs and opinions; they choose to cite data only when those data reaffirm their preconceived notions.[6] Policy makers are no exception. They rely on "working knowledge," an amalgamation of formal evidence and personal experiences, interests, values, and beliefs.[7] Policy makers seek out and are influenced by information, but, like most other people, they pay little attention to statistical data in their deliberations.[8]

Certainly, data can influence the thinking of policy makers – but usually only indirectly. Formal evidence is filtered by one's working knowledge and incorporated or rejected in ways consistent with that knowledge.[9] Indicators are only one of many sources of information available to school board members and district administrators – people who are already likely to hold strong ideas about which schools or programs are better or worse and why.

The way in which decisions are made in school districts also contributes to a minimal use of data. Few districts have an identifiable planning and policy-making process; lines of authority and responsibility for decision making are often vague. Planning is relegated to a variety of committees that come and go, and policies are formulated, often in piecemeal fashion, by various actors in the system, depending on the particular issue at hand.[10]

One outcome is that data are rarely collected, analyzed, or presented in order to inform particular issues. Districts are not short on statistical data. Virtually all districts already collect standardized achievement test data at least annually. Many districts collect a variety of other test data as well, including scores on state or local competency tests, on college entrance examinations, and on aptitude tests. Yet, as the following example illustrates, the average test scores that are typically reported are not useful to the staff of a school district.[11]

Roughly half of the population of a junior high school in one California district is composed of upper-middle-class whites; the other half is composed of low-income students who are recent immigrants from Mexico. The average test score at this school falls near the 50th percentile but moves up or down slightly from one year to the next. Policy makers regularly debate whether the school's major weakness is in language development or in providing adequate preparation for its college-bound students. The debaters never bother to analyze students' test scores by family income, ethnicity, or language facility.

If the test scores from this school reflect only shifts in the proportions of advantaged and disadvantaged students, the policy makers are debating the wrong solutions. But if an analysis of the data indicated that the advantaged population had increased in size while the test scores of that group had decreased, attending to the program for the college-bound would be well-advised.

Indicators are not intended to isolate causes; they are merely supposed to identify specific areas in need of further investigation. Knowing only that the numerical value of an indicator has gone up or down does not suggest a reason for the change. A shift in the average test score of a given school might stem from a change in the student population, in the quality of instruction, in the curriculum, in available resources, in school leadership, in the physical facilities, or in any

[illegible] by [illegible]

of a number of other factors. Unless they can explain why the numerical value of an indicator has changed, policy makers have no basis on which to create or modify policies that will affect educational outcomes.

The challenge, then, is to develop indicators that policy makers will actually use. This challenge has two parts: 1) creating *indicators* that are useful and 2) creating *conditions* that facilitate their use in planning and decision making.

The key to increasing the usefulness of data lies in the manner in which they are analyzed and presented. Scores from appropriate tests are useful to the extent that shifts in scores can be associated with shifts in other factors – especially when those other factors can be influenced by policy actions. Note that this approach does not increase the burden of data collection. To analyze data in useful ways, the focus must shift from getting the right data to asking the right questions – an equally challenging (if not more challenging) task. The most useful analyses present data in ways that suggest reasons for the variations and thus possible courses of action. For example, variations in attendance and dropout rates across schools and across subgroups of students within the schools are more useful than district averages.

The second part of the challenge concerns the character and climate of the school district – its organizational culture. How district policy makers make decisions, the extent to which they pay attention to data, and the messages that teachers and principals attach to requests for information are profoundly influenced by the organizational culture of the district.[12] District administrators vary tremendously in their commitment to improvement, in their use of feedback, and in their capacity to seek solutions and initiate actions.

When district leaders are committed to improving education and when they value the importance of feedback in planning for the future, they create a climate that supports planning and the use of data. Their commitment to improvement is signaled most strongly by involving stakeholder groups in the design of the district's data system. Data are far more likely to be viewed by school and district staff members and by the community at large as credible if these groups have had an opportunity to suggest what things should be measured and how.[13]

Teachers, for example, are more likely to view teacher evaluation as legitimate and fair when they have had a voice in its design.[14] Imposing a system of indicators on schools puts at risk both the quality of instruction and the integrity of the data.[15] Conversely, if school staff members help to create the indicator system, they are more likely to provide accurate information and to implement policy changes that are based on that data.[16] When school staff members are involved in the creation of a districtwide indicator system, they can also be encouraged to identify indicators that are unique to their own schools and to use them in developing individual school improvement plans.[17]

A supportive climate alone is not sufficient to insure that indicators are put to constructive use. In addition, district leaders must be willing to commit the necessary resources to gather further information, if it is needed, and to devise and implement improvements. Without a willingness to initiate and implement changes, pronouncements of commitment to improvement cannot be taken seriously.[18]

IND
INDICATORS

Illustration by Mike Streff

When they are combined with richer sources of information, indicators can be valuable tools for improvement at both the district level and within individual schools. If creating and implementing a system of indicators will encourage district and school staff members to ask important questions about instruction, to reflect on current practices, to plan for future needs, and to try out new ideas, then indicators will contribute to educational improvement.

But indicators also involve risks with potentially serious consequences for the quality of education. Staff time and money are sometimes spent on developing and implementing a system for collecting data, and then the data are not used. And indicators can become ends in themselves, driving instructional practices in unintended directions, whether or not they are used by policy makers.

Do the benefits of educational indicators outweigh the risks? The answer to that question depends on the particular circumstances of a given school district and its schools. The same risks exist in all districts, however – and if educators do not consciously seek to minimize these risks, they can easily outweigh the benefits.

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1. See, for example, James N. Johnstone, *Indicators of Educational Systems* (Paris: UNESCO, 1981); Steve Kaagan and Marshall S. Smith, "Indicators of Educational Quality," *Educational Leadership*, October 1985, pp. 21-24; and National Center for Education Statistics, *Indicators of Education Status and Trends* (Washington, D.C.: U.S. Department of Education, 1985).

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Indicators:

Objective Data Or Political Tool?

Would a first-class set of indicators favor district, state, and federal initiatives – or would it strengthen and increase the professional discretion of teachers? We cannot afford to ignore this question, Mr. Porter says. The stakes are too high.

BY ANDREW PORTER

THE DEBATE over teacher autonomy versus central control is in full bloom, and the outcome is still unclear. Where does the movement toward the use of educational indicators fit in that debate? Are indicators part of the argument at all? Would a first-class set of indicators favor district, state, and federal initiatives, or would it strengthen and increase the professional discretion of teachers? Since we are a long way from having first-class educational indicators – or even from knowing exactly what that phrase might mean – it is too soon to answer those questions. Nonetheless, the stakes are potentially so high that the questions demand consideration.

Hypothetically, indicators could serve partisans on either side of the debate (or on neither). But the bulk of the evidence suggests that indicators will strengthen the hand of those who favor central control over what is taught, how it is taught, by whom, to whom, and to what standards of achievement. Whether or not increased central control is in the best interest of students is, of course, another and substantially more important issue.

The debate on teacher autonomy versus central control is unlikely to be settled empirically. Rather, the issue is likely to be put to an uneasy and temporary rest for political reasons. Educational indicators might serve either side of the debate *not* by providing unimpeachable evidence of the health of education (as some might naively suppose) but as a political tool. The side that controls the indicators (i.e., what is monitored, how it is monitored, and how it is reported) will have gained one more weapon in its arsenal for obtaining control.

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THE FIGHT FOR CONTROL

Until recently the fight for control of the schools had only three contenders: the federal, state, and local governments. The amount and form of federal control have shifted and changed over the last 20 years, but the federal role in education has generally assumed an upward spiral. The federal government has largely sidestepped the issue of a central curriculum, but it has played an active role in such other areas as educational equity, special education, and vocational education.

The amount and form of state control have also waxed and waned in recent years. Since the states differ considerably in their methods of setting education policy, school control at the state level is a complex matter. For example, state authorities differ sharply in their control of the curriculum.[1] States such as California and New York have long histories of state control of the curriculum, while Florida is a relative newcomer to state control in that area. Other states – Ohio and Indiana among them – delegate curriculum control to the local school districts and insist that the districts accept that responsibility. Highly decentralized states (e.g., Michigan) are comparatively silent on curriculum issues.

Not surprisingly, within the boundaries set by the federal and state governments, local districts also vary dramatically in the extent to which they exercise control over the schools. There is virtually no evidence, however, of any serious federal, state, or local initiative to enhance teacher autonomy and professionalization.[2]

Yet in the past few years the debate over who should control education has begun to focus on a new possibility: teachers. Such influential panels as the Holmes Group and the Carnegie Task Force on Teaching as a Profession have called for increased control of education by teachers. The Carnegie Task Force stated, "The key to success lies in creating a profession equal to the task – a profession of well-educated teachers prepared to assume new powers and responsibilities to redesign the schools for the future."[3]

TEACHERS
STATE
FEDERAL
LOCAL

Illustration by Mike [illegible]

Local districts vary dramatically in the extent to which they exercise control over the schools.

On the one hand, then, the current reform movement has been characterized by attempts to increase state and district control of the schools. Recent initiatives at those levels leave teachers with less discretion to decide what will be taught and how. On the other hand, however, there is the belief that educational excellence cannot be legislated – that such excellence requires knowledgeable teachers empowered to exercise professional judgment.[4]

The notion of giving teachers authority to establish educational goals and to decide how best to meet them may presage a fundamental shift in the controversy over school control. No longer is the issue so simple as deciding which level of the education hierarchy should exercise which kind of control. Teacher participation in setting education policy has become a fourth option, and this alternative creates a new dilemma. As Dennis Carlson puts it, "The system cannot create the conditions most suitable to the pursuit of excellence by teachers and students without giving teachers and students much more control over the schooling process; and there is no assurance that teachers and students will then use their new-found power or define excellence in ways that are consistent with corporate and state interests."[5]

I do not intend in this article to resolve the controversy over school control. Rather, my goal is to determine which parties in this controversy are best served by the movement toward using educational indicators.

WHAT'S NEW ABOUT INDICATORS?

When Congress established the first Department of Education in 1867, it charged that agency with collecting and publishing each year "such statistics and facts as shall show the condition and progress of education in the several states and territories." Since 1979, *The Condition of Education*[6] – and, since 1982, its companion report, the *Digest of Education Statistics*[7] – have been the primary responses of the Department of Education to that charge.

However, criticisms of the federal statistics have been pointed and frequent, especially in recent years. For example, after a comprehensive study in 1987 of indicator systems for monitoring education in mathematics and science, the researchers concluded, "Current indicator systems – to the extent that such systems exist – tend to consist of rather disjointed pieces of information about such topics as fiscal resources, teacher characteristics, and student test scores."[8] Recent concerns about the quality of education and a desire to monitor the effects of emerging state reforms have led to such short-term solutions as Secretary of Education Terrel Bell's "wall chart," which provides data profiles that invite state-by-state comparisons. Meanwhile, substantial strengthening of the federal role in collecting and reporting data on educational indicators has fostered serious consideration of long-term solutions.[9]

Currently, educational indicators are more often criticized for their inadequacies than looked to for information. Since there is a growing consensus that better-quality data are important and worth the price, that situation may change within the next few years, however.[10] If it does, another possibility arises. A set of high-quality educational indicators could serve as more than just a way to monitor the health of the education system. Such indicators could also focus the attention of the system on certain kinds of educational outcomes and away from others.[11] Unfortunately, the question of how well schools are doing cannot be separated from the thorny issue of what schools *should* be doing. Thus educational indicators are potentially instruments of control.

The better the educational indicators that are available in the future, the greater their potential for control. If there are good indicators for student performance in mathematics and science but not in art and literature, we can expect to see greater emphasis in the schools on mathematics and science and less emphasis in the schools on the humanities. If performance indicators emphasize discrete skills and factual recall rather than conceptual understandings and problem solving, the schools may do likewise. Indicators could become more than just objective data about the health of the education system; they could become working definitions of what constitutes good health.

Scholars and practitioners alike have long speculated about the influence of achievement tests on curricular content. For many, "What is tested is what is taught" has become an unexamined truth. But studies of the effects of tests on the curriculum have yielded less conclusive findings.[12]

No longer is the issue so simple as deciding which level of the education hierarchy should exercise which kind of control.

Indeed, the more distant the testing program is from a classroom, the less influence it has on classroom practice. Studies of elementary school mathematics classes, for example, found that nationally standardized norm-referenced tests had virtually no influence on instructional content and teaching practices.[13] District- and school-level tests were sometimes quite influential, though, especially when they were integrated into the curriculum (as in a system of management by objectives). These findings suggest that educational indicators will probably not become important mechanisms of school control, since most of the current interest in educational indicators has come from the federal and state levels.

But if in the future an indicator were to describe the type and amount of mathematics instruction that students receive, and if this indicator were to be reported by state and by students' ethnic origins and socioeconomic backgrounds, and if this information were to be routinely updated over time, and if the data were to be widely perceived as valid, then such an indicator might exert leverage on classroom practice. For example, the states might feel pressured to take whatever steps they could – including rigorous control of the mathematics curriculum – to make their education systems look "acceptable."

The possibility that educational indicators might become instruments of school control raises the question, Who will control the indicators? Surprisingly (in light of the current debate over school control), there appears to be a consensus: indicators are intended to serve the needs and the interests of policy makers.[14] Although the meaning of the term *policy makers* is ambiguous, teachers seem to be excluded. They may function as policy makers in their own classrooms, but their sphere of policy-making influence is bounded by a host of external factors over which they have virtually no control – including especially the policies that are handed down by the education hierarchy.[15]

All of this might change if the recommendations of the Carnegie Task Force are implemented. At the moment, however, the authority of public school teachers does not extend beyond their own classrooms and students. They have virtually no say in specifying more generally the boundaries of desirable curricular and pedagogical practices.[16] In terms of today's reality, then, a high-quality set of educational indicators would almost certainly strengthen the hand of those who favor central control of the schools.

REASONS FOR TEACHERS TO WORRY

A close look at the recommended guidelines for developing educational indicators reveals several dilemmas that those who design and implement indicator systems must confront. How these dilemmas are handled seems likely to affect the ultimate meaning of educational indicators for teachers. And here again, teachers have reason to worry.

Quality versus quantity. Educational indicators are statistics, numbers that collectively provide information about the performance of central features of the education system or of the system as a whole. Unfortunately, it is much easier to use numbers to describe quantities in education than to describe the quality of education. This fact has long posed a problem for educational researchers, but it poses even more of a problem for those who seek to develop high-quality indicators.

The question of how well schools are doing cannot be separated from the thorny issue of what schools *should* be doing.

The magnitude of the tasks of collecting and reporting educational indicators on a regular basis will generate tremendous pressures to keep things simple and to contain costs. For example, it is much easier to summarize information on the percentage of students who receive high school diplomas than to describe how much the typical high school graduate knows and can do. It is much easier to chart the percentage of high school graduates who attend or complete college than to describe how ready the typical high school graduate is to profit from a college education. It is easier to chart the percentage of high school graduates who are employed than to describe how well the typical high school graduate is prepared to perform in a given job.

Similarly, it is easier to report the percentage of high school students who complete four years of mathematics coursework than to describe the nature of the mathematics instruction they receive. It is easier to describe the total number of minutes an elementary student spends in school than to describe the number of minutes of academic instruction received by that student – or, even harder, the quality of that academic instruction. It is easier to describe students' attendance (though even that task is apparently complicated) than to describe in vivid terms just what an absent student misses.

Parsimony versus complexity. Advocates of educational indicators agree that the number of indicators must be sharply restricted. In part, this recommendation is due to cost: the greater the number of indicators, the greater the expense of collecting data and reporting the findings. But advocates also believe that, in the words of a National Academy of Science report, "Individuals involved in making decisions about such a complex endeavor as education require information that is relevant and easily understood. To achieve the necessary clarity requires reduction and simplification of pertinent information."[17]

In one sense, the argument for parsimony is valid. Indicators that capture the complexities of education would be unwieldy. Only educational researchers would spend the necessary time and energy to make use of such data. Moreover, indicators that capture the complexities of education would cost far more than the entire budget currently allocated to education statistics *and* to educational research.

In another sense, however, the need for parsimony is highly problematic. Teaching and learning are complicated. Even describing something as straightforward as the elementary school mathematics curriculum is incredibly complex. Some fourth-grade teachers allocate twice as much time to mathematics instruction as do other fourth-grade teachers. Some teachers spend less than 10% of the allotted time on the teaching of problem-solving skills and conceptual understandings, whereas a few teachers devote more than 30% of the allotted time to these goals.[18] And describing instructional approaches is even more challenging.

Because of the need for parsimony, educational indicators will not reflect such complexities. No matter how carefully those who analyze indicators qualify what they report, educational indicators seem almost certain to strengthen already-prevalent beliefs among policy makers and the public at large that teaching and learning are relatively straightforward and that – repeated failures in the past notwithstanding – the quality of schooling is easily improved.

Symmetry versus asymmetry. One of the common recommendations is that educational indicators be related to current problems.[19] Since policy makers are the primary audience, this recommendation makes some sense. After all, if it ain't broke, don't fix it. But what about educational excellence? Are indicators equally likely to serve that end?

The result may be the piecemeal implementing of an indicator system, in which interim solutions become permanent policy.

The education statistics that are commonly reported today deal with such things as the dropout rate, the number of illiterates, the percentage of students who possess *minimum* competencies, and the percentage of teachers who are teaching outside their fields of specialization. Does elimination of the dropout problem equal excellence? Would reducing to zero the number of illiterates among high school graduates represent excellence? If all teachers were certified in the areas in which they are teaching, would that be excellence? On asymmetric indicators, the best that the schools can do is to avoid failure – to show that they satisfy the public's minimum expectations.

Of course, some indicators are as capable of reflecting excellence as they are capable of reflecting failure. Some observers would argue, however, that most measures of student achievement focus heavily on facts and skills and substantially less on problem solving, application, and conceptual understanding – and that these measures thus do not validly document either excellence or failure.[20]

Intentions versus actuality. An important lesson from policy research is that implementation of a policy can be something quite different from what the policy intended.[21] A system of educational indicators is an education policy in its own right and thus not immune to this problem. Almost surely, difficulties in the implementation of educational indicators will exacerbate the other problems I have noted above.

On paper, a comprehensive system of indicators might look attractive to policy makers, schoolpeople, and the general public. But the implementation could proceed in a piecemeal fashion.[22] If in the interim everyone realized that the information being collected was incomplete and potentially misleading and if resources were available to take immediate steps to remedy those deficiencies, the system of indicators still might prove acceptable. But those are big ifs, especially when current low levels of investment in education statistics are taken into account.

I was surprised to learn, for example, that a state as aggressive and educationally progressive as California spends less than .05% of its education budget on statistics.[23] The federal investment in education statistics is an even smaller percentage of the federal education budget.[24] Most observers agree that the current quality of educational indicators is unacceptable. Clearly, current investment in educational indicators is tiny. The extent to which any future system of indicators is better than the present one will almost surely depend in large part on how much more the states and the federal government are willing to invest in this enterprise. Yet the pressure to contain costs will be enormous. The result may be piecemeal implementation of an indicator system, in which interim solutions become permanent policy.

SERVING TEACHERS' NEEDS

So far my speculations about the future of educational indicators have painted a fairly gloomy picture for teachers. That is because, in casting educational indicators as a political tool, I have imagined that tool in the hands of policy makers and the education hierarchy.

However, designing and implementing a system of educational indicators could become one of several first steps toward the meaningful participation of teachers in setting education policy. Even if it falls short of achieving this revolutionary goal, a good system of educational indicators might yield some benefits to individual teachers.

I would be among the last to argue against efforts to obtain better information on educational practices and their effects. Presumably, any new system of indicators – whether controlled by the education hierarchy, by teachers, or by the public – would satisfy an abstract desire for better information. When problems of education are readily identified, resources to solve them are more likely to follow. If they are to give every student a high-quality education, teachers need all the support they can get. Teachers also deserve the increased professional status that a high-profile set of educational indicators might foster.

At the classroom level, however, it is hard to imagine a set of indicators that could provide useful information to individual teachers about the nature and effects of their instructional practices. Achievement tests are a good example. Within the first two weeks of a school year, teachers are able to rank their students on reading achievement with a level of accuracy that correlates highly (.85) with students' scores on a standardized test of reading achievement.[25]

READING SCORES

Illustration by Mike [illegible]

This is not to say that teachers already know everything they need to know about their classroom practices. Earlier, I cited data on individual differences among elementary teachers in their approaches to mathematics instruction. Those data were collected from daily logs that the teachers maintained over a full school year. (Interestingly, the descriptions of practices that emerged from the logs contradicted in important ways summary statements that the same teachers provided in interviews at the beginning and at the end of the school year.) Many teachers want to know more about the practices in their own classrooms and how these compare with those of other teachers. Teaching is a highly isolated activity, with limited opportunities for teachers to know about and study the practices of others or even to reflect on their own practices.[26]

Clearly, educational indicators could not provide detailed feedback to individual teachers about the nature of their own practices; detailed data from large numbers of daily logs would be far too expensive to collect, analyze, and report. But indicators could potentially describe the practices of a representative sample of teachers, and other teachers who wished to do so could compare their own practices with those descriptions.

For teachers, however, the real potential of a system of indicators lies not in the information it might provide about individual practices, but in its use as a political tool for strengthening the profession as a whole. As I noted earlier, indicators seem likely not only to monitor educational practice but also to influence it. If representative teachers were actively involved in designing and implementing a system of educational indicators, and if *all* teachers recognized the input of these representatives as legitimately reflecting their own expertise and concerns, then the resultant system of indicators might satisfy two important ends.

Letting teachers set the boundaries within which they work does not guarantee school improvement.

First, representative participation in the design of the indicator system would enhance the professional status of teachers. They would be exercising their expert judgment regarding what to teach and how to teach it, which would give them some control over the schools and the school systems in which they work.[27] Susan Rosenholtz refers to such control as "delegated authority."[28] Kenneth Benne calls it "anthropological authority."[29]

Representative participation in the design of the indicator system would enhance the professional status of teachers.

The second end to be served by the participation of representative teachers in the design of an indicator system is the authority that the resultant indicators would have for all teachers. If teachers were meaningfully involved in deciding what is to be monitored and how, the resultant indicators would serve as persuasive statements to all teachers about desirable educational practices and appropriate educational goals.

One of the characteristics of an effective school is that the teachers share a common set of goals. A system of educational indicators developed with the input of expert teachers might answer both the need for shared goals and current calls for teacher autonomy and increased professionalization. "As long as teachers think of themselves as bureaucrats and . . . simply put in their hours with no thought or definition of what it is they are trying to achieve, schools will not change," according to Thomas Timar and David Kirp.[30]

WHAT DO indicators mean to classroom teachers? Currently, they mean nothing. My teacher friends tell me that they are not familiar with such publications as *The Condition of Education* and the *Digest of Education Statistics*. Their heads are not filled with facts about average student achievement, graduation rates, curriculum practices, or even median teacher salaries – nor do they clamor for such information. They know about certification requirements for themselves and their students. They know how well their own students fare on minimum competency tests and where their students stand in relation to national and local norms on standardized tests. But such statistics are not what most people have in mind when they speak of a system of educational indicators.

What educational indicators mean to teachers today is not the right question to ask. The movement toward the use of indicators is still in its infancy, and the types of indicators that are called for are not yet available. However, speculating about what indicators may mean to teachers in the future raises the issue of school control.

Recent calls to increase the autonomy and professionalism of teachers have remained only recommendations. Meanwhile, the states and – less visibly – school districts have been implementing policy after policy, specifying what is to be taught, how it is to be taught, and to what standards of student achievement. The movement toward a system of educational indicators will probably strengthen the forces favoring central control.

The more completely the education hierarchy specifies educational goals and practices, the more technical (and less professional) the tasks of teaching become. Research has demonstrated that teachers who serve as technicians, simply going through the motions, are less effective than teachers who work to attain goals that they themselves have set. Larry Cuban has dubbed the first kind of teaching "remote control teaching."[31]

However, letting teachers set the boundaries within which they work does not guarantee school improvement. The teacher corps is large, extremely diverse, and constantly changing through attrition and new hirings. Teacher participation in developing indicators could result in indicators that reflect the lowest common denominator of current practice. Teaching toward more worthwhile goals might turn out to be harder work. Clearly, the best interest of students is not always synonymous with the best interest of teachers.

Speculating about what indicators may mean to teachers in the future raises the issue of school control.

Regardless of which group – teachers, bureaucrats, or policy makers – specifies future indicators, these indicators have the potential to standardize local practice.[32] If teachers play a meaningful role in defining and implementing the indicators, however, any resulting standardization will occur through persuasion, not coercion. Persuading teachers to pursue common goals that are worthwhile seems highly desirable and in no way a challenge to local control or to teacher autonomy.

Illustration by Mike [illegible]

Lessons from Comparing
Educational And Economic Indicators

It is incorrect to view educational indicators as vastly more troubled than unemployment indicators, the authors maintain. But differences between the educational and the economic systems have important consequences for the development of indicators.

BY RICHARD J. MURNANE AND EDWARD W. PAULY

THE QUALITY of the information that describes the performance of the U.S. system of education has come under close scrutiny of late. After 20 years of Title I (now Chapter 1), the Congress wants to know whether children from poor families are reading better. State legislators want to know whether the myriad education reforms they have introduced are improving education.

Both groups of policy makers are frustrated when analysts tell them about the difficulty of measuring performance, explaining performance trends, and accurately reporting performance levels for individual districts or schools. Policy makers want to know why the indicators that measure the success of the education system in raising student achievement seem inferior to those that measure the performance of the economy in providing jobs. After all, unemployment statistics appear monthly, and they include not only the simple, easy-to-understand national unemployment rate, but also unemployment rates for a variety of subgroups of the population.

We argue that it is incorrect to view educational performance indicators as vastly more troubled than unemployment indicators. In fact, many of the problems with indicators in education are also problems with unemployment indicators. Understanding the nature of these common problems may help us appreciate the progress that has been made in improving educational performance indicators and may make us more aware of [illegible] tential contributions and [illegible] future progress.

Understanding the common problems may help us appreciate the progress that has been made in improving educational indicators.

We also argue that [illegible] the educational and [illegible] have important [illegible] development of [illegible] formance [illegible] nomy. Local school officials [illegible] sible for children's [illegible] ment, while neither local [illegible] ficials nor local business [illegible] held responsible for local unemployment rates. The structure of educational governance complicates the task of developing

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accurate indicators of educational performance.

MEASURING PERFORMANCE

At an abstract level, Americans tend to agree about what they want from their economic and education systems. The education system should provide all children with a "good" education; the economy should provide jobs for all adults who want them. But how should progress toward these goals be measured when children differ so greatly in their abilities and interests and when the employment opportunities provided to individuals differ so widely?

Education. One of the striking aspects of the history of federally collected data on education is how long performance measures were dominated by data on enrollments, later followed by information on graduation rates. Until the 1960s, no data collected at the federal level attempted to measure what students learned in school. Two events during the 1950s increased the pressure for better information on children's cognitive skills. The first was the Soviet launching of Sputnik I, which raised questions about the competitiveness of American education; the second was the civil rights movement, which raised questions about the quality of education provided to black children and children whose parents are poor.

During the 1960s two federal initiatives responded to the demand for better knowledge of students' achievements. The first was the Equality of Educational Opportunity Survey (EEOS), which provided information on the achievement test scores of 645,000 children in U.S. public elementary and secondary schools. Analysis of the test scores revealed an enormous variation in the measured achievement of 12th-graders and showed that graduation rates tell us little about what graduates know. Thus one striking effect of the Coleman Report, as the 1966 document summarizing the analysis of the EEOS data came to be known, was to redefine the performance of the U.S. system of education. No longer would information on enrollments and graduation rates suffice.

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A second federal initiative during the 1960s, the creation of the National Assessment of Educational Progress (NAEP), went a long way toward meeting the need for better information on performance. The NAEP provided periodic assessment of achievement in reading, mathematics, and science of random samples of 9-, 13-, and 17-year-old students. The methodology permitted comparisons of the average performance of minority children with that of white children of the same age and comparisons of the average performance of children of a given age at different points in time. For example, the reading performance of 9-year-olds in 1971 can be compared with the reading performance of 9-year-olds in 1975.[1]

The results of the NAEP have been extremely informative. For example, they have shown that the reading achievement of 9-year-old students increased during the 1970s, with the achievement of black children increasing more rapidly than that of white children. The reading scores of 13-year-old children during the same period remained relatively stable, and the reading scores of 17-year-olds fell.

While the information provided by the NAEP dramatically expanded our knowledge of the achievement of American schoolchildren, it also raised new questions that the NAEP data could not answer. Why had the reading achievement of 9-year-olds improved while that of 17-year-olds declined? In a sense, the *patterns revealed by* the NAEP – patterns that would not have been discovered without it – led to *criticisms of* the NAEP. The experience of developing indicators of the economy's performance in providing jobs to all citizens who want them is strikingly similar.

The labor force. Before the publication of John Maynard Keynes' *General Theory* in 1936,[2] mainstream economists viewed unemployment as a transitory phenomenon to be remedied by wage and price flexibility. Because unemployment was viewed as transitory, governments made no attempt to measure its incidence. The massive and sustained unemployment and hardship of the 1930s, however, challenged the classical view of unemployment.

Keynes' theory provided an alternative view. It held that involuntary unemployment could persist. Moreover, Keynes' theory included the critical implication that government could reduce unemployment by reducing taxes or by increasing spending. The coincidence of massive unemployment and the possibility of doing something about it led to significant pressure on the federal government to count the unemployed.[3]

But the task proved difficult. In particular, it was difficult to distinguish systematically those individuals who wanted to work but could not find jobs from those who were not looking for work. After considerable debate, an operational definition was adopted: an unemployed person is someone who is not working but who is available for work and has actively sought work.

This definition was a step in the right direction, but it, too, raised new questions. What does it mean to "actively seek work"? How often must one look for work? What actions constitute looking for work? These questions were debated during the latter part of the 1930s, and a conceptual framework was adopted in time for use in the census of 1940 – the first census to measure the number of people employed and the number unemployed.[4]

Illustrations by Mike [illegible]

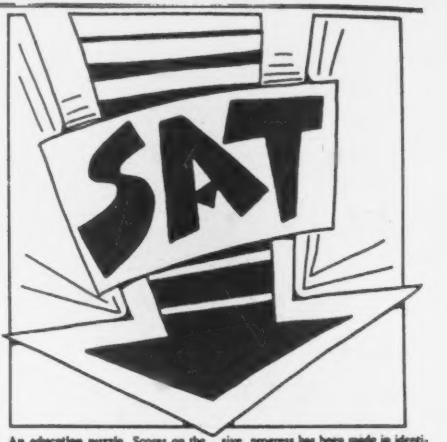
Given its importance, information on unemployment was needed much more frequently than could be provided by the decennial census. Beginning in 1937, attempts to estimate national unemployment figures used probability sampling – at that time a relatively new and untested method for estimating the attributes of a population. By 1947 these efforts had led to the Current Population Survey (CPS), which provided dramatically improved information about the nation's labor force. Each month, data became available on the size of the labor force and on the national unemployment rate for the previous month. Changes in the unemployment rate could be traced from month to month. Separate unemployment rates were estimated for men and women, for whites and minorities, and even for different age groups cross-classified by race and gender.

Data from the CPS have revealed many distinctive patterns. For example, during the last 20 years there has been a sustained upward trend in the unemployment rate, and minorities experience much higher unemployment rates than do whites. As with the NAEP data, the patterns revealed by the CPS raised new questions, questions that the CPS data could not easily address. For example, it has proved difficult to discern from CPS data the relative importance of the many factors that contribute to the high unemployment rate for minorities or the reasons for the long-term increase in the unemployment rate.

The moral to be drawn from this historical comparison of the CPS experience and the NAEP experience is not that we should be complacent about the quality of existing educational indicators. Instead, the moral is that it is unrealistic to evaluate the quality of educational indicators by asking whether they answer *all* the important questions about educational performance. New and improved indicators will always make us aware of new questions that we could not even have recognized beforehand.

EXPLAINING TRENDS IN PERFORMANCE

A major challenge in developing new indicators is to create an information base that will allow us to analyze the causes of observed trends in performance. Analysts have found strategies that help in sorting out puzzling trends, but these strategies always reveal new puzzles and thus challenge their own adequacy.



An education puzzle. Scores on the Scholastic Aptitude Test (SAT) began to decline during the 1963-64 school year, and the decline continued through the 1979-80 school year. This decline worried national policy makers and local schoolpeople because it raised questions about the quality of the American education system and about the skills of its graduates. Consequently, there was great interest in understanding why the SAT scores fell and why the decline continued for 16 years.

The greatest progress toward understanding this decline came from analyzing changes in the composition of the test-taking population. After extensive analysis, the College Board Advisory Panel concluded that more than two-thirds of the decline in the early years (and somewhat less in later years) could be explained by the increase in the number of relatively low-ability students taking the test.[5]

Changes in the test-taking population could not explain all of the SAT score decline, however. This conclusion was based on evidence that scores on other tests, such as the Iowa Tests of Basic Skills and the Minnesota Scholastic Aptitude Test, which were administered to a similar population in each year, also fell during the late 1960s and early 1970s.[6] While the explanation for the decline in these scores has proved elusive, progress has been made in identifying the timing of the declines and in refuting a number of proposed explanations (television, the Vietnam War, parental divorces). Daniel Koretz' recent study for the Congressional Budget Office has shown that the decline ended with children born in 1962 or 1963. The fact first showed up in the test scores of these children in the upper-elementary grades in 1974 – and at higher grade levels as these children aged.

While the availability of long-term data on a variety of test scores was critically important in explaining the SAT score puzzle, it also revealed new and equally puzzling questions. For example, why did scores on the Preliminary Scholastic Aptitude Test (PSAT) taken by high school juniors (and some sophomores) not decline as much as the SAT scores between 1963 and 1973?[7] Why do recent NAEP test scores show the South gaining when compared with the rest of the country, while scores on other tests do not show this trend?[8] This pattern – information that explains puzzling trends poses new puzzles – also characterizes the experience with unemployment indicators.

An economics puzzle. In recent years economists and policy makers have been troubled by a long-term increase in the unemployment rate, from an average of 4% at the end of the 1960s to an average of more than 7% in the mid-1980s. As with the education puzzle, progress in understanding the unemployment puzzle has come from comparing trend data on alternative measures of economic performance. For example, Lawrence Summers has shown that the increase in the unemployment rate is not due to a long-term "cooling down" of the economy.[9] He bases this conclusion on the fact that other indicators of the level of economic activity, such as the percentage of the nation's capital equipment in use, show no evidence of a long-term "cooling off."

While the availability of multiple indicators of performance helped to discount some explanations for the puzzle of rising unemployment rates, it also created awareness of another perplexing puzzle: the insured unemployment rate (that is, the number of people filing unemployment insurance claims divided by the number of people whose jobs are covered by unemployment insurance) has *fallen* during the last 10 years, even as the total unemployment rate has *risen*. Since these two rates are expected to move together, the divergence raises questions about exactly what each rate measures and what their divergence means.

The standard response to such puzzles is to call for greater efforts to assess the validity of each indicator – that is, to be sure that the indicator is measuring the underlying concept it was intended to measure. Now, while improving validity is clearly an important priority, it is also important to acknowledge the difficulty of validation. Often it is extremely difficult to define underlying concepts, and, even when progress is made in definition, it is difficult to develop operational measures of concepts. As a result, collecting and reporting trend data on a variety of performance indicators will always reveal new puzzles, and it is important not to regard that fact as evidence of a weak indicator system. Identifying new puzzles is a critical step toward gaining new knowledge, both in economics and in education.

COLLECTING DATA, REPORTING RESULTS

One troublesome issue in designing an indicator system is determining the appropriate level of aggregation for reporting the data. Many indicator systems have started out reporting data only for the nation as a whole. Over time, the desire for finer-grained information led to disaggregation by smaller geographical units.

However, determining the appropriate degree of disaggregation always involves difficult tradeoffs. Fine-grained data reported for small geographical units can be valuable in pinpointing problems and interpreting national trends – but, to keep the level of accuracy constant, the sample size and the cost of the survey must increase as the data are broken down to represent smaller and smaller geographical regions.

To date, data from the NAEP have been reported only for four large regions and for the nation as a whole. This high level of aggregation stems from the insistence of the Council of Chief State School Officers (CCSSO) at the inception of the NAEP that the data not be used for state-by-state comparisons. In a dramatic change of position, the members of the CCSSO voted in 1985 to support state-by-state comparisons of test scores. As a result, it is likely that in the near future NAEP test scores will be reported for individual states. The disaggregation of NAEP data to the state level will probably increase the annual cost of the program from $4 million to $13.5 million.[10]

During the 1970s federal job training and employment grants to local governments were based on local unemployment rates. This created a demand for rates that were locally specific. The local rates were calculated by combining information from the decennial census for an estimate of the size of the local labor force and information from local unemployment insurance claims for an estimate of the number of unemployed workers. The method used to estimate local rates was extremely complicated, as its name, "the 70-step method," implies,[11] and it was certainly expensive. Moreover, critics argue that the estimates are unreliable and that basing federal training and employment aid on the estimated local unemployment rates was poor policy in the first place.

These examples illustrate the similarities in the consequences of reporting educational performance and economic performance indicators for small geographical units. In other respects, however, the experiences differ because of differences in the governance structure of the two sectors.

Education. Indicators of children's achievement, when reported at the district or school level, can affect the careers of school superintendents and school principals. Administrators in school districts and schools with rising test scores may find new career paths open to them. Administrators in school districts and schools with low or declining test scores may find their jobs in jeopardy. Put differently, local school officials are seen as *accountable* for students' achievement.

One consequence of this accountability is that school officials may alter their behavior in an attempt to raise test scores. If such a response leads to greater learning for students, it may be one of the greatest benefits of reporting disaggregated data on student outcomes. Publicizing data for individual schools and school districts may turn out to be a relatively effective strategy by which states and the federal government can persuade local districts to concentrate on improving student learning.

Unfortunately, administrators might also respond in such a way that average test scores rise while student learning does not increase. For example, school officials may exclude from the tested sample potentially low-scoring children on the ground that they have special needs or that their first language is not English. Such a response makes it impossible to judge the extent to which an increase in the average test score for a particular school stems from improved instruction or from testing a higher-achieving population.

District-by-district or school-by-school reporting of test scores can also lead local educators to focus instruction on the skills measured by the tests or to teach test-taking skills. Analysts disagree about how big a problem such responses are. To a large extent the disagreements stem from differing judgments about the quality of the tests. Analysts who tend to support teaching to the test typically believe that the skills needed to do well on the tests are tightly connected to the cognitive skills that children should learn. Analysts who are troubled by the practice argue that "coaching" results in an emphasis on such lower-order skills as recall of facts at the expense of such higher-order skills as the ability to reason carefully and creatively.

The governance structure of U.S. education, whereby states are responsible for education yet delegate significant responsibility to local school districts, also complicates the process of *collecting* performance data. For example, in order to administer a survey in a sample of U.S. public schools, the U.S. Department of Education must obtain the permission of state departments of education, local superintendents of schools, and individual school principals. And local and state officials do sometimes refuse to participate in federally sponsored education surveys. Such refusals are long-standing concerns, dating back to the design of the EEOS in 1965, and they continue to be an issue for the designers of the NAEP today.

One of the concerns of local school officials is that participation in a survey will result in the loss of scarce instructional time. A second concern is that the indicator data, if reported for individual school districts, may reflect on their performance in unfair ways. Their instructional program, for example, may be geared toward developing higher-order skills, which are measured poorly by multiple-choice tests; their district may be experiencing an influx of special-needs children whose low performance on standardized tests will lower the average achievement, even though the teachers are doing an exceptional job; or they may be aware that other districts with which their performance will be compared are devoting considerable instructional time to coaching for the tests.

Unemployment. Determining who is employed and who is unemployed in the United States depends primarily on decisions of employers and workers operating within decentralized labor markets. While the federal government has, since 1946, assumed at least nominal responsibility for keeping unemployment low, neither state nor local governments hold constitutional responsibility for the economic system. Local officials are not typically held accountable for local unemployment rates. As a result, local government officials, unlike local school administrators, lack strong incentives to manipulate estimates of local unemployment rates.

Neither are there any state or local governmental agencies that must approve the questionnaire content and sample design used by the U.S. Census Bureau in conducting the Current Population Surveys. Instead, survey personnel at the Census Bureau deal directly with the 60,000 households chosen to participate in the monthly survey. This makes the task of collecting reliable data on unemployment considerably less complex than the task of collecting reliable performance data on education.

LESSONS

Our comparison of the histories of educational indicators and unemployment indicators suggests three lessons. First, it is important to develop multiple indicators. No single set of test scores provides a reliable basis for assessing the performance of the education system, just as the unemployment rate by itself does not provide a reliable measure of the performance of the economy.

INDICATORS

Illustration by Mike Siroff

Second, good indicators make us aware of new and puzzling questions. It follows from this that we should not be dismayed or discouraged by, nor should we lessen our support for, indicators that reveal new questions but fall short of providing convincing answers to these questions.

Third, it is important to become knowledgeable users of indicators. Because a rich set of U.S. economic indicators has been published monthly for more than 40 years, users of these indicators have become quite sophisticated in piecing together a complete picture of the economy's performance by examining trends in indicators over time and by comparing trends in more than one indicator. Moreover, users of economic indicators have become aware of certain patterns among indicators that require careful interpretation. For example, the productivity of the labor force declines at the beginning of a recession not because workers have become lazy, but because firms' sales are declining and firms are still reluctant to lay off workers. Similarly, productivity per worker rises rapidly after the trough of a recession because sales increase; yet firms are slow to increase their workforces after a period of slack demand. Knowledge of these patterns is important in evaluating the long-term significance of changes in estimates of worker productivity.

The development of a rich set of indicators of the performance of the education system is a much more recent phenomenon. In fact, it is a phenomenon that is still evolving in important ways. As a result, most users of educational indicators are still in the early stages of learning how to use them. Even fewer users have learned to recognize the predictable patterns among educational indicators. For example, rarely do reports of state-by-state comparisons of SAT scores or reports of SAT score trends mention the critical fact that average scores are highly sensitive to the proportion of high school seniors who take the test. Yet, without this knowledge, such comparisons can easily be misinterpreted. The lesson to be learned here is that the growing availability of educational indicators makes it increasingly possible – and increasingly important – for educational practitioners and analysts to become sophisticated users.

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3. Margo Conk, "A Historian's View of the U.S. Statistical System's Turbulent Era: The 20's-40's," *Washington Statistical Society Newsletter*, May 1986.
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7. College Board, pp. 21-22.
8. Koretz, *Educational Achievement*. . . .
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federal register

Tuesday
September 12, 1989

Part IV

Department of Education

Office of Educational Research Improvement

National Research and Development Centers Competition; Solicitation of Written Public Comments

DEPARTMENT OF EDUCATION

Office of Educational Research and Improvement

National Research and Development Centers Competition; Solicitation of Written Public Comments

ACTION: Notice to solicit written public comments on a proposed research and development centers competition.

Purpose: The Secretary invites written public comments on twelve planned research and development centers and the potential lines of inquiry within each center. Written comments received in response to this notice will be carefully considered by the Office of Educational Research and Improvement (OERI) in preparation for an upcoming national research and development centers competition to be held during FY 1990, with awards to be made in FY 1991.

Deadline for transmittal of written comments: To be considered, all written comments must be received on or before October 31, 1989. Written comments received on or before this date will be considered in preparing final mission statements that will describe the Department's recommendations for the research areas, activities, and objectives of the national research and development centers.

Applicable regulations: The regulations for the Research and Development Centers Program, 34 CFR Parts 706 and 708.

SUPPLEMENTARY INFORMATION: The Secretary plans to compete twelve educational research and development centers. At a later date, an application notice will be published for the competition to be conducted in FY 1990 for the national research and development centers to be awarded in FY 1991.

Prior to this announcement, OERI has engaged in a series of activities designed to identify the kinds of research most likely to benefit learners in this society. Recommendations were solicited from organizations and individuals with a variety of perspectives on the present status of education and how educational research and development activities could improve education. Planning meetings were held with parents, practitioners, policymakers, researchers, and public officials. Written comments were received from the general public, from members of the National Academy of Education, and from representatives of various interest groups, including many education organizations. OERI considered this planning work the essential first step in the conduct of both educational research and disciplined inquiry in education theory and practice.

The recommendations received by OERI often called for substantially new initiatives. In contrast to the ideas and recommendations offered in previous years—which typically addressed how schools could improve on what they were already doing—current advice repeatedly suggested that "tinkering at the edges" and "business as usual" would not suffice. Instead, the following sorts of fundamental questions were voiced: What should children know? What should they be able to do? Does the increasing cultural diversity of today's school population mean that new educational strategies are needed to ensure that tomorrow's citizens are literate, knowledgeable in mathematics and science, active in the community, and committed to learning throughout life? If so, what are these strategies? What should teachers know, and how do they learn it? What State and district policies encourage parental and community involvement in education or more effective school organization, and does the implementation of such policies foster student learning? What policies discourage student learning? How can adults learn to read and write? At the same time as OERI was counseled to encourage sustained basic research whose benefits are not so predictable, OERI was urged to support a timely practical response to current needs.

As result of the planning meetings, written comments, staff analyses, and further consideration of national needs, the present status of education and education research, and the limited resources available, OERI concluded that twelve particular research and development centers should be established. The planned array of research centers includes support for ongoing lines of inquiry that continue to warrant investigation, redirection of some current research activity, and also fundamentally new directions for center research. The twelve planned centers are designed as a group to reflect a comprehensive approach to education, one that aims to improve teaching and learning across the broad span of ages from childhood to adulthood, across the broad spectrum of languages and cultures in schools, and across large and small, urban and rural, public and private schools. Finding imaginative ways to create educated graduates, accountable teachers and schools, productive workers, and knowledgeable citizens is vital to national well-being.

In addition to recommendations which informed the development of the twelve missions outlined below, OERI identified four pervasive themes among the ideas and comments offered during the planning process which deserve special attention: student and teacher engagement, cultural diversity, student transitions, and the middle grades and high school years.

Student and teacher engagement: Exploring the factors that enable students and teachers to be actively involved in the education process, especially understanding what leads them to persist in the active pursuit of educational goals.

Cultural diversity: Finding ways to make use of opportunities presented by the increasingly wide range of linguistic and cultural backgrounds found in American classrooms, and finding ways to surmount the educational challenges posed by this diversity.

Student transitions: Exploring the educational significance of the maturational changes children and young people undergo as they progress from one institutional setting to another, from home to school, from one school to the next, from school to work and family, and from job to job.

Middle grades and high school: Examining the serious mismatch between the organization and curriculum of the middle grades and high schools, on the one hand, and the needs and capabilities of young adolescents, on the other hand.

OERI plans to encourage prospective centers to propose activities that address these themes in constructive ways that are consistent with the centers' particular research missions. Also, based in part on the ideas and comments received during its planning activities, OERI plans to encourage collaboration among centers and the dissemination of research findings to audiences who can make good use of them.

Planned priorities: OERI plans to invite proposals to establish research and development centers concerning the subjects listed below. The numbers following each priority correspond to the priorities listed in the regulations for this program at 34 CFR 706.3(b).

(1) *Families, Communities, and Young Children's Learning.* (Learning (Priority 1); Home, family, cultural, and community influences on education, including parental choice and involvement in schooling (Priority 14); Early childhood education (Priority 23)).—Family, community, and culture are recognized as powerful influences on learning. There are serious research problems involved in studying these complex influences properly, but the potential benefits of understanding them

and how they may contribute positively to education cannot be denied. Important areas of inquiry include: (1) Studying not only how family structural characteristics and socio-economic condition affect children's education, but what practices families might engage in which support and contribute to children's intellectual and moral development; (2) developing and disseminating useful information and effective strategies to assist parents' efforts to improve their children's learning; (3) exploring the nature of the learning experiences of the young child from birth through preschool and the transition into formal education, to understand how that learning takes place and how the influence of various people and learning environments encountered affect the young child's learning; (4) understanding the relationships between family and community and school during the early school years; (5) investigating learning opportunities in communities, both formally organized activities—such as day care and preschool facilities scouting and church groups, civic association activities, and community service programs—and informal activity, to identify and augment the crucial educational qualities of such experiences; and (6) examing the cultural influences of family and community on children's education, to develop ways to overcome practical problems and take advantage of opporunities to enhance learning.

(2) *Student Learning.* (Learning (Priority 1); Student achievement, including students' motivation to learn, their failure to learn, and their failure to attend school and graduate (Priority 13)).—Recent evidence indicates that large numbers of students are completing their years of formal schooling without having achieved proficiency in learning, reasoning, problem solving, and other higher order thinking skills. In our highly complex and rapidly changing technological world, such individuals are poorly prepared to cope with the everyday demands they will encounter throughout their lives, both as citizens and as workers. The impressive strides researchers have made in elucidating the nature of certain high order thinking skills, such as reading comprehension and arithmetic problem solving, have served as a basis for the design of teaching experiments that have led to substantial improvements in the percentage of students mastering such skills. Areas of inquiry critical to the continued creation of a knowledge base useful in teaching higher order thinking skills include: (1) Delineation of similarities and differences in the patterns of thinking fostered in different academic subjects; (2) exploration of the role of social interactions in promoting the acquisition of higher order thinking; (3) exploration of ways of restructuring the presentation of academic content to help students achieve integrated knowledge; (4) assessment of the effectiveness of alternative methods for teaching thinking skills, looking in particular at the special learning problems of low achieving students; and (5) the relationship between learning higher order thinking skills and student motivation.

(3) *Writing and Literacy.* (English literacy, including reading, writing, and language skills (Priority 19)).—Because writing proficiency is an integral part of the literacy skills students need for academic success, understanding the ways in which students acquire and develop writing skills is an important prerequisite for improving the literacy level of all learners. Areas of inquiry critical to promoting writing proficiency and related literacy skills include: (1) The intersections between writing, reading, and oral language; (2) writing assessment (that is, measure of writing competence based upon classroom practice and instructional goals); (3) writing as a learning tool (that is, writing strategies that facilitate the comprehension and learning of subject matter content as well as teach students how to think more effectively); (4) the acquisition of writing skills by students with different language backgrounds; (5) instructional strategies that include the use of technology to teach writing and take into account individual learning differences; and (6) early literacy learning.

(4) *Mathematics Teaching and Learning.* (Mathematics (Priority 20); Teaching (Priority 2); Learning (Priority 1)).—Improving student achievement in mathematics, especially in problem solving, reasoning, and higher order thinking, is imperative to meeting the demands of a rapidly changing society. Mathematics educators have completed important work in such areas as establiching curricular and evaluation standards and researching how students learn mathematics. Areas of inquiry that promise to improve the learning, teaching, and assessment of mathematics include: (1) Improving the skills, knowledge, and teaching practices of mathematics teachers; (2) expanding our knowledge of how students learn mathematics, especially at the middle and secondary grades, with particular attention to the influence of student engagement; (3) uncovering barriers to implementing curricular reform in mathematics; (4) identifying the contextual and organizational features of classrooms and schools that promote improved student achievement in mathematics; (5) learning how teaching and assessing mathematics can be aligned more closely; (6) improving the integration of mathematics with other curricular areas; and (7) determining how technology can improve the mathematical problem solving and reasoning skills of all students.

(5) *Science Teaching and Learning.* (Science (Priority 21); Learning (Priority 1); Teaching (Priority 2)).—It is imperative that all students become scientifically literate. Areas of inquiry for improving the science proficiency of all students include: (1) The relationships among science, mathematics, and other subjects and the inclusion of scientific ideas into other subjects; (2) the use of innovative techniques to accurately assess students' knowledge and skills; (3) applying research on students' cognition and motivation to problems of classroom instruction in science; (4) studying the ways in which school and classroom organization and policy affect student problem-solving and reasoning in the classroom; and (5) the incorporation of technology into the science curriculum.

(6) *Learning to Teach.* (Teaching (Priority 2); Teachers (Priority 34)).—The quality of teaching is central to students' learning. Research on learning to teach focuses on understanding the continuing development of teachers' expertise. In contrast, such questions as determining the best combination of subject matter knowledge and teaching techniques, or how to recruit competent teachers, adopt a comparatively static prespective in which teachers are thought to master discrete elements of teaching competence near the beginning of their professional careers, and subsequently need only to maintain or preserve that competence. Focusing on how people learn to teach implies that good teaching depends on special kinds of knowledge, and that the quality of teaching may change and improve as that knowledge develops. Relevant areas of inquiry include studying (1) How teachers acquire their expertise both at the beginning of teaching and over the course of their professional careers; (2) the content of teachers' learning, including subject matter and how to teach it, how to teach students from diverse populations, and how teaching responds to the various ways in which

students learn; and (3) the effects of innovative pedagogies (for example, case methods, computer technology) and nontraditional contexts (for example, professional development schools, teacher education in other countries, alternative routes to licensure) on teachers' learning.

(7) *Education in the Inner Cities.* (Education of special populations, including the educationally disadvantaged or students-at-risk, those with limited English proficiency, and immigrants (Priority 38); Secondary education (Priority 29); Early adolescent education (Priority 30); Home, family, cultural, and community influences on education, including parental choice and involvement in schooling (Priority 14)).—Inner cities pose formidable problems for education, both inside and outside of schools. Research in this area focuses on the distinctive characteristics of inner city education, taking into account the whole set of social, economic, cultural, and political conditions in which children and adolescents live and go to school. Developing constructive responses to the challenges of education in inner cities depends partly on knowing which problems are unique to education in inner cities, and which problems are common to other social contexts. Areas of inquiry include: (1) Studying how the educational system operates, for example, the functioning of its bureaucratic administration, the causes determining which students attend which of the different (public or private) schools, the allocation of resources among schools, and influences on the relationship between schools and other agencies; (2) examining how inner city conditions affect the features of schools, for example, the recruitment and retention of school personnel, the creation of school and classroom atmosphere, and examining what kinds of inner city schools and teachers are particularly successful, and why; (3) understanding how the cultural diversity of the inner city student population shapes students' educational experiences and interactions; and (4) studying both the beneficial and the detrimental effects of activities pursued by students outside of school.

(8) *Education Policies and Student Learning.* (Implementation and effects of educational policies (Priority 39); Learning (Priority 1); Improvement in education, including State and local reform initiatives (Priority 12)).—Teaching and learning take place within the context of Federal, State and local policies. In the past decade, new education policies have been developed at an unprecedented rate. For example, since 1980, 45 States have either specified for the first time or increased the number of courses a student must pass to graduate from high school. Similarly, more than 1,000 pieces of legislation regarding teachers were considered over this period, and a substantial number were passed. Virtually every State, enacted legislation to reform teacher education, licensing, or compensation during the decade of the 80's. Policymakers, such as governors, State legislators and members of State and local school boards, as well as concerned citizens, can be helped by studies that: (1) Describe the conceptual underpinnings of alternative policy approaches, (2) delineate the strengths and weaknesses of those alternative approaches, and (3) demonstrate which alternative approaches most effectively promote particular learner outcomes. Areas of inquiry include: (1) Examining such existing policies as raising student standards, changing teacher certification and compensation, increasing parental choice of schools, and moving education decisions to the school site level to study the impact of such policies on learning; (2) studying the development of innovative, promising policy approaches that have yet to be implemented, focusing on determining the type and nature of information that policymakers and concerned citizens need if they are to develop and implement policies that promote effective learning, and discovering the most effective means for delivering that information to those who need it.

(9) *Assessment, Evaluation, and Testing.* (Evaluation and indicator measures, including testing, measurement, and standards of performance (Priority 7)).—Assessment, evaluation, and testing processes and procedures have profound influences on what is taught and learned. Areas of inquiry include: (1) The interdisciplinary design of innovative assessments of student learning processes, student performance, and student products within and across content and skill areas—including higher order thinking and noncognitive development—for purposes of increasing the validity and usefulness of classroom and large-scale assessments; (2) the development of theories, models, and methodologies that support emerging assessment needs and practices and that accommodate an increasingly diverse student population; and (3) studies of the intended and unintended effects of assessment-related practices and reforms.

(10) *Adult Literacy.* (English literacy, including reading, writing, and language skills (Priority 19); Adult and continuing education (Priority 33); Postsecondary education (Priority 32)).—It is estimated that some 40–60 million adults in the United States are either illiterate or underliterate. Public and private programs, whether formal or informal, serve only 3–4 million adults. The instruction in these programs is often not very effective, and many people enrolled in such instruction gain only a year or two in reading ability before leaving the program. Areas of inquiry critical to adult learning and literacy include: (1) the identification of model programs with high enrollment; (2) the study of model programs with high rates of student persistence; (3) the assessment of the effectiveness of various programs; and (4) research on the effectiveness of basic skills training based upon new technologies.

(11) *Educational Quality of the Workforce.* (Education, work, and careers (Priority 15); Adult and continuing education (Priority 33); Postsecondary education (Priority 32)).—Being able to hire educated people who can be trained throughout their working lives has become a critical issue for the national economy. Areas of inquiry important to improving the educational quality of the workforce include: (1) The identification of the full range of threshold skills and competencies that workers need in order to be productive in modern work settings; (2) the identification of the factors that account for the differences in skills and competencies required across different jobs, firms, and industries; (3) the long-term effects of school and college achievement on labor market outcomes; and (4) the perceived, real, and projected career consequences of earned graduate degrees, and other post-baccalaureate education.

(12) *Postsecondary Learning and Teaching Assessment.* (Postsecondary education (Priority 32); Learning (Priority 1); Teaching (Priority 2); Evaluation and indicator measures, including testing, measurement, and standards of performance (Priority 7)).—Identifying effective teaching strategies and ways to enhance student learning, developing methods for assessing the quality of the undergraduate educational experience, and testing ways to incorporate new pedagogical approaches are essential prerequisites for improvng the quality of undergraduate education. Areas of inquiry critical to the improvement of postsecondary teaching and learning include: (1) An examination of instructional resources and support systems, faculty preparation and

pedagogical skills, educational delivery systems, learning environments, and student educational outcomes; (2) an examination of student backgrounds, study skills, levels of effort, learning styles, strategies, and motivation; (3) an exploration of general education and graduation requirements, along with the specific content of courses and majors; and (4) the identification, development, testing, and dissemination of effective indicators and methods for assessing instructional quality, student learning, and the outcomes of higher education.

Request for information: For additional information contact Dr. Joseph Conaty, U.S. Department of Education, OERI, Office of Research, Room 610, 555 New Jersey Avenue, NW., Washington, DC 20208-5573, (202) 357-6079.

Program Authority: 20 U.S.C. 1221e.

Dated: September 8, 1989.

Bruno V. Manno,

Acting Assistant Secretary for Educational Research and Improvement.

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U.S. DEPARTMENT OF EDUCATION
OFFICE OF EDUCATIONAL RESEARCH AND IMPROVEMENT

NATIONAL CENTER FOR EDUCATION STATISTICS

DEC - 8 1988

Dear Colleague:

Emerson Elliott presented The Condition of the Center - 1988 report to the fall meeting of the members of the Advisory Council on Education Statistics. (A list of the current Council is enclosed.)

We feel the report is a clear and succinct statement of the progress the National Center for Education Statistics has made to the recommendations of the evaluation conducted by the National Academy of Sciences at our request. We thought you, as a friend of NCES, would like to review the Center's activities, and we asked Emerson to make the report widely available.

In our own work with the Center we have participated in the development of written statistical standards, review and clearance procedures, survey design and analysis, and watched the change in spirit as the Center has assumed and been given more responsibility. All of this is corroborated in the report Emerson made to us which we want to share with you.

Sincerely,

Ray Turner, Presiding Officer
Advisory Council on Education
Statistics

Enclosures

WASHINGTON, D.C. 20208—

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Revised
November 7, 1988

THE CONDITION OF THE CENTER - 1988[1]

Emerson J. Elliott
Acting Commissioner of Education Statistics

These last few months I have frequently been asked to make a statement about the "new" NCES, a reference to changes that might have appeared suddenly as a consequence of recent legislation. But the term doesn't seem especially appropriate to me for an organization that likes to trace its roots back 121 years to 1867 (unless, perhaps the comparison is with such long-standing bureaucracies as the Roman Catholic Church or the British monarchy!). Instead, I prefer to think of the Center developing through various stages, with its present situation different--in many respects stronger and more adequately serving the public--compared with two or three years ago and still with many challenges before it. My comments, then, are a report on the status or condition of the Center in late 1988.

These remarks are organized as a reminder of where we have been, a description of where we are now, and some observations abut where we must direct our attention next. With the constructive assistance of many concerned people, we have learned important lessons from the past. In the present, we are trying to draw from those lessons, working with considerable assistance of the Department, Congress, and numerous other supporters to establish a quality core program of data collection, analysis, and dissemination. And we are now able to train our sights on the future, to think through where we want to be and what we need to do to get there. My comments will address each of these perspectives in turn. The vision is sobering in the breadth of demands it places on NCES, but I hope it can inspire the Center and those who care about it to seize the opportunities ahead.

PAST

In 1985 and 1986, the National Academy of Sciences undertook an evaluation of the Center. NAS wrote a tough critique--actually repeating advice that had been given in half a dozen reports on the Center over a period of three decades. Framing the issue as one of "intent, commitment and leadership," it made more than 40 recommendations for action by the Center, its Department and the Executive Branch generally, and also for Congressional action. The authors sounded the alarm:

> without such "strong and continuous commitment and demonstrated determination to undertake wide-ranging actions to change both the image and reality of the Center, we are unanimous in our conviction that serious consideration should be given to the more drastic alternatives of abolishing the Center and finding other means to obtain and disseminate education data."

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[1] Report prepared for the Advisory Council on Education Statistics, September 15, 1988.

But the preferred course of action proposed by the Academy--and the course the Executive Branch and Congress have followed--was to make significant changes in the ways NCES does its work, especially its statistical and technical work, in its staffing, and in support for measures to assure data integrity. (See Attachment A for a summary of NAS recommendations and subsequent response.)

There were other studies and other circumstances that described the condition of the Center by the mid-80's. The combined effect of more or less level appropriations and U.S. inflation for several years prior to 1986 was a sharp erosion in data purchasing power.

- The General Accounting Office reported early in 1986 that the Center had experienced a 64 percent decline in constant dollar appropriations between 1974 and 1984 while Department of Education appropriations increased 22% in constant dollars.
- GAO reported a decline in constant dollar funding of seven U.S. Government statistical agencies (including NCES) of 8% between 1980 and 1984 while NCES declined 28.9%.
- GAO also reported a decline in the number of Center surveys from 55 annually in 1976 and 1980 to just 38 in 1983.

Center staff also dropped.

- A Congressional Research Service study reported a drop from 173 in 1980 to 125 in 1984 (and the staff level was further reduced to 102 just two years ago). In "full-time equivalent" terms for recent fiscal years, Center records show staffing as follows:

  1981 - 154.6
  1982 - 129.7
  1983 - 122.0
  1984 - 117.7
  1985 - 119.3
  1986 - 107.0
  1987 - 118.3
  1988 - 127.0

The CRS report documented other evidence of decline:

- a teacher demand and shortage survey was postponed in 1982;
- technical assistance grants to States were terminated;
- briefer and less analytic reports were issued; and
- validation studies were eliminated for some surveys.

GAO reported a sharp increase in data published in the *Digest* that were two to three years old.

	% of total data elements			
	1980		1983-84	
	CCD	Other	CCD	Other
Months out of date				
12 or less	0%	39%	6%	6%
13 or less	33	22	9	24
19-24	33	0	18	6
25-36	11	6	52	47
37 or more	22	33	16	18
# of elements	27	18	33	17

The reawakening of interest in education data following the 1983 *Nation at Risk* report simply made the decline more obvious. The authors of *At Risk* were forced to use very old data, less than satisfactory proxy measures and other inadequate statistics in preparing their report.

In its 1985 solicitation of researcher and data user comments on the utility and adequacy of elementary and secondary education data, NCES was advised of severe problems that sharply restricted the utility of its data for both policy and analytic purposes:

- Data gaps (e.g., on teachers and on schools--especially at the elementary level-- dropouts, finance), X
- Lack of comparability, X
- Over-aggregation that hid important analytical characteristics (such as States, urban/rural, rich/poor areas, public/private, elementary/secondary) and X
- Tardiness of data releases. X

At the postsecondary level, similarly, there were no data on students (especially on students receiving financial assistance), none on outcomes, virtually none on faculty, and insufficiently detailed information on finance and credit activity. The burgeoning interest in "indicators" of education status and progress was severely hampered by such deficiencies in data at the national level.

The Academy placed the Center's 1985-1986 situation in the context of thirty years of Government failure to act. GAO and CRS reports described the Center in the setting of Government statistics agencies in the first half of the eighties. The 1985-1986 Center condition recounted in these reports didn't happen suddenly nor was the Center singled out. The more significant conclusions, though, are in the *message* of those reports rather than in their findings. The messages from these examinations of NCES' past are several:

- First, to be useful to the policymaking and research communities, NCES must have a core program that comprehensively covers major education issues on a periodic basis.
- Second, for this information to be accepted and accurate, it must meet high standards of statistical quality.
- Third, to meet the needs of a wide range of data users, NCES must place a high priority on disseminating data in varied forms and on a timely basis.
- Fourth, the Center clearly requires changes in its funding and staff level to accomplish these ends. X

PRESENT

The response to the Center's status in the mid-1980's has occupied the Executive Branch and Congress, and the Center itself and its Department, and has brought wide support from countless organizations and individuals who care about education data.

The following pages describe several dimensions of the present condition of the Center: the control of its data program; its technical capability; its use of external expertise; funding and staff; and new legislation.

1. OUR DATA TELL MORE ABOUT THE STATUS AND TRENDS OF AMERICAN EDUCATION

Perhaps the single most important NCES initiative for data users is our move to fill long-standing gaps in the nation's education statistics and also to make data more useful for analytical purposes.

- At the elementary and secondary level, the Center has initiated a sample Survey of Schools and Staffing (SASS) that will greatly expand information about teacher job experience, work incentives, activities, use of time, compensation, and attitudes. It is gathering data on school incentive programs and college enrollment rates. And principals are surveyed also on such matters as job preparation and experience, attitudes and roles. In our school universe surveys, items on racial composition of schools and proxies for socio-economic status are being added. We are also beginning a major revamping of financial information that will restore detailed data on the use of funds. And at the request of Congress, the Center is designing an annual collection of data to describe the extent and status of dropouts.

- The Center's third longitudinal study began this past spring gathering baseline statistics on eighth graders--the first time we have started a longitudinal study at that level. With its biennial follow-ups, this will provide invaluable information about schooling and subsequent transitions and on such issues as dropouts and entrance into employment.

- The National Assessment of Educational Progress (NAEP) is to be strengthened in several ways. Under new legislation[2] the "Nation's Report Card" will gain importance as a monitor of student progress by addition of a State-by-State component, a larger private school sample and, possibly, occasional coverage of out-of-school 17-year-olds. It will have a new and more independent governance structure to search for consensus as a basis for NAEP policy decisions. The Center is also mandated to conduct continuing evaluations of the assessment program.

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[2] The Hawkins-Stafford Education Improvement Amendments of 1988.

- We have taken steps to strengthen the analytic potential of our data. More data will be available at the teacher and school level instead of aggregated. Data sets are being linked with common questions and "nested" samples. Data will be representative of States and other elements of diversity in American education including schools in different settings--urban, rural, rich, poor, large, small, high and low minority enrollment, public and private.

- The Center is making a serious commitment to international education statistics so that valuable cross-national comparisons can be made. Activities include an upgrading and regular funding of U.S. involvement in international achievement studies; co-support with NSF, of a National Academy of Sciences group to help assure high technical quality, stable planning and support, and greater use of the data from such international studies; initiation of an OECD "indicators" project; addition of an international component to NAEP; and participation with OECD in an effort to make annual statistical collections more complete and comparable.

- At the postsecondary level, we expanded our vision to include all postsecondary institutions in basic data collections (now called the Integrated Postsecondary Education Data System or IPEDS), but we have added important new data to help achieve comparability and explain differences in reporting. For example, we are now collecting data on "total institutional credit" activity, a measure we expect to be more comparable across institutions than the "full time equivalent enrollment" which has been difficult to standardize.

- The postsecondary collections are also more comprehensive. They now request additional information on retirement and fringe benefits, system-wide costs and State office expenditures so that financial statistics will be more complete. And we have instituted a separate data collection on student financial aid that will open up enormous new research opportunities. It provides a wealth of first time data on aided and unaided students at every college level, has gathered representative data describing the U.S. college population and it is structured so that student and institutional data bases can be linked. We plan to use this study as the foundation for new longitudinal surveys of postsecondary students, and of postgraduate experience.

longitudinal
surveys

- And this past spring, we conducted our first survey of college faculty with data on characteristics, experience, attitudes, work week and other not-previously available information.

2. THE CENTER'S TECHNICAL CAPABILITY IS GROWING

Well, are all these new data any good?

The Department of Education accepted the National Academy of Sciences' challenge and has made significant changes in the Center's technical operations. We have built on excellent work in some places--such as the longitudinal studies program, a redeveloped postsecondary education data system, the annual Condition of Education report on the status and progress of education, the beginnings of a school sample study--and taken bold initiatives to deal with deficiencies identified by the Academy. For example, we have:

- Established the position of a chief statistician to take charge of technical policy and ensure that our recently developed statistical standards are met,
- Initiated an in-house technical training program,[3]
- Encouraged staff to prepare articles for journals and professional conferences and increased our participation in the Washington Statistical Society, American Statistical Association and, of course, the American Educational Research Association,[4]
- Increased our staff by 30% last year, and
- Established publication review and clearance procedures that have peer review as a major feature.

In 1987, Secretary Bennett issued a Department policy memorandum on NCES' publication review and clearance procedures which established the Commissioner as the final arbiter of what NCES publishes. This memorandum was updated in September to incorporate changes due to Hawkins-Stafford amendments and revised to subject contractor reports to virtually the same review as staff publications. Two additional policy directives have been issued in 1988: the first gives technical specifications for NCES publications, and the second gives guidance on publication planning, review and revision. These documents are the result of intense consultation among Center staff about what goes into a particular kind of publication (report, analysis, ED Tab) and how publications are to be prepared from initial planning to production and revision in a sensible timeframe). We found that publication types had strayed from original intent, that publications were often late and staff were exasperated and frustrated. So we set about to work through the problems and come up with a better system. The new policy memoranda now guide our publication process and should enable us to meet our commitment that data be made available to the public in a timely and understandable manner.

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[3] The Center offered last year, two at the undergraduate level, one at the graduate level. There was a series of technical seminars offered at the Center, and NCES co-sponsored four conferences on current techniques in statistics, analysis, and data collection, with a good share of NCES in attendance. The Center also conducted a first, the Federal Forecasters Conference, which invited forecasters from all parts of the Federal Government to discuss techniques used.

[4] The Center numbers among its staff the Chair of the Social Statistics Section, ASA, the Chair/Elect of the Social Statistics Section, ASA, and the Program Chair/Elect, Survey Methods Section, ASA.

These highlights should indicate the wide scope of our actions. The impact on users should be greater confidence in quality when they purchase Center tapes or read our publications.

3. WE ARE SEEKING AND USING ADVICE

Another characteristic of Center directions and initiatives is that we are more determined than ever both to seek advice from diverse sources and to weigh that advice in reaching decisions about our program and products. We are calling on a wide array of data producers and users, including members of the education research community, the media and policymakers. For example, we commissioned papers for advice on updating elementary-secondary data programs that shaped the content as well as the structure of our elementary and secondary collections. We convened a conference on our 1988 longitudinal study that resulted in starting with an eighth- instead of a tenth-grade cohort. A special panel on National Assessment, chaired by former Governor Lamar Alexander of Tennessee, commissioned 46 papers to provide advice on its work. We have assembled researchers and other advisors and data users on our studies of student financial aid, college faculty, elementary secondary schools and staffing, and school finance.

We supported a panel to assess how well the structure of our studies responds to needs for policy relevant information, and hosted a pair of meetings on the pros and cons of a possible merger of National Assessment and our school sample studies called by the UCLA Center for Research on Education, Standards and Student Testing (CRESST). Still other panels have advised us on dropout data, education indicators and the needed revisions of our higher education institutional surveys.

Last year, for the first time, we were able to attract three Fellows of the American Statistical Association. Ingram Olkin, and his associates Ed Haertel and Larry Hedges, are assembling groups to help conceptualize an education data system for the 21st Century. Funding for this was provided by the National Science Foundation. Both these Fellows and our staff have reported with some enthusiasm that already they feel benefits from their daily contacts.

The Center appointed a NAEP Technical Review Panel on National Assessment involving education researchers. This Panel, Chaired by Ed Haertel, addressed three major issues: 1) the soundness of NAEP trend data, 2) the puzzling problem of the 1986 reading anomaly, and 3) technical considerations related to a State-by-State assessment program. The panel has advised us on development of the 1990 survey and has helped the Government respond to public concerns voiced about these issues.

Altogether, over the past year, the Center has met with ten standing advisory panels involving 105 members and has convened eighteen one-time meetings to request advice from 379 individuals. These nearly 500 advisors exclude external peer reviewers for publications as well as groups organized by others with whom we meet regularly (such as representatives of State higher education agencies).

The advice we obtain from these sources is the essential yeast of the Center's loaf of bread. We need to have a data program that is technically adequate but at the same time sensitive to content. We have given this necessary connection of data user needs, research and statistics a permanent and senior- ranking focal point in the Center by creating the position of Chief Advisor for Research, a post parallel to the Center's Chief Statistician.

4. OUR RESOURCES ARE MORE ADEQUATE

The Center's funding situation has changed dramatically as a result of Executive and Congressional action (see Attachment B). With the consistent recommendation of Assistant Secretary Finn and Secretary Bennett, the President proposed sharp budget increases for fiscal 1987, 1988, and 1989. Congressional response came for fiscal 1988 and fiscal 1989. The result is:

- An appropriation less than $13 million for six years through 1986,
- Rose to $14.1 million in 1987, $21 million in 1988 and $31.1 million in 1989,
- Thus, by 1989, the level is 2-1/2 times that of 1986--a figure that restores (in real dollar terms) the Center's peak level reached in 1973-75.

In the area of staffing, the Center has advanced from its low point of 102 in September and October, 1986. By August 1987 the figure was 134 on board staff. As of September 11, 1988, the figure is 127 with 7 recruitment actions in progress. The staff as a whole has richer diversity as well. Recent additions have, for example, brought more experience:

- in other Government statistics agencies
- State Departments of Education
- psychometrics
- mathematical statistics
- subject expertise (e.g., finance)
- technology of surveys

Still, the Center's staff is well below the "full-time equivalent" level of 155 for 1981 and the 173 level NAS reported for some point in 1980.

There is a human dimension to these cold statistics on numbers of staff and that concerns the roles, recognition, sensitivity to interests and needs, morale, and management relations with the Center's employees.

Last February the Department union sent the Director a report based on response to a survey of employee attitudes that indicated--among the 66 percent of staff who responded in the fall, 1987--some 82 percent felt there was a relatively low sense of mutual trust between management and staff. Following an employee suggestion, the Center established an Employee Advisory Committee with members elected by each Center branch. The EAC is to deal with issues such as communications, employee performance agreements and appraisal systems around which many concerns lie. In September, the Committee transmitted its "Interim Report" making 25 recommendations for improving the working environment in the Center.

- One of these dealt specifically with the reaction of several NCES employees to use of special hiring authority that the Office of Personnel Management had created to staff hard-to-fill positions (such as statisticians). OPM had waived the usual posting and OPM review procedures and invited all who were interested in this expedited hiring arrangement to attend a "Job Fair" where Government agencies could receive applications. Omission of the usual publicly posted job announcements were perceived by some as contrary to the Department's collective bargaining agreement as well as unfair to employees who could receive promotions through this special OPM process.

- Other recommendations covered a wide range of matters on communications (especially on jobs, reorganizations, and other administrative matters), management development (e.g., training for and evaluation of managers, especially in interpersonal skills), employee awards, the Government's employee appraisal system, administrative provisions under the Hawkins-Stafford Amendments, and employee development (including transfers in assignments, travel funds and the clerical-junior-senior staff balance).

It is already clear that the Committee is providing a constructive way for employees to address issues that are critical to employee morale, job satisfaction and professionalism. As the new fiscal year begins, NCES management will respond--I trust in equally constructive fashion.

5. WE HAVE NEW AUTHORITY AND RESPONSIBILITIES

Congress has not only provided additional funding, it has devised a legislative response to the challenge of the National Academy of Sciences as well. Provisions of the Hawkins-Stafford Education Improvements Amendment, signed by the President last April 28, contain more than two dozen authorizations of several types.

- Nine would provide a specific legal basis for activities already underway. The effect is more to strengthen Congressional commitment to them--and, hence, to the Center--than to alter Center programs. These include:

    - student financial aid study each 3 years
    - postsecondary longitudinal study

- school district "mapping" of Census data each decade
- elementary-secondary longitudinal study
- annual dropout statistics
- cooperative State-Federal public library statistics program
- appointing committees
- using data from other agencies
- sampling

o Nine others are directly linked to the goal of assuring integrity in the Center's data and in most cases are adaptations of laws, conventions or practices of other statistics agencies (such as BLS or Census) to NCES:

- a (1) cooperative State-Federal elementary and secondary statistics program, and an attendant (2) fellowship training program for State and local statistical personnel would sharply upgrade Center efforts with State education agencies to make cross-State data more comparable. Hawkins-Stafford authorizes "agreements" between the Federal Government and States on data definitions and standards for supplying data that have been only informal for the last year; research, evaluation, technical assistance and other forms of support for the system; and Federal funds for additional costs incurred by compliance.

- The distinction between "data" and "policy" statements is clarified by (3) separating the annual "condition of education" statistical report (which NCES would prepare) from a Secretarial report on the "state of education."

- The Center's technical and leadership role in education statistics is fostered by requiring it to (4) make reports to Congress when asked, (5) control preparation and publication of its reports, to (6) administer a tough provision that will maintain confidentiality of data supplied by individuals, and (7) provide assistance for other parts of the Department that engage in statistical data collection in order to coordinate and assure the quality of such collections.

- The Center's leadership staff positions would be altered to assure senior stature and a balancing of technical and subject expertise by (8) making the Commissioner an Executive Level IV Presidential appointee (beginning in 1991) and (9) creating statutory Associate Commissioners for "Statistical Standards and Methodology" as well as for "Data Collection and Dissemination." (Other Associate Commissioners can be created by the Commissioner, as appropriate.)

o The remaining eight provisions have less to do with data integrity, but do have a bearing on overall Center authority:

- Two create additional tasks--a panel to recommend education "indictors" to monitor the condition and progress of education and a report on school reform activities, especially on success and retention of disadvantaged students.

- Three would seem to have limited substantive impact--restoring "National" to the Center's title; restricting the Advisory Council's role to advice (rather than setting standards); and making the Commissioner chair of ACES (on its face, a conflict that should be remedied by a change in the law since the ACES advises the Commissioner).

- Three would establish managerial authorities for contracting, hiring, and a separate and earmarked administrative expenses appropriation. Although modeled on experience of the larger Government statistical agencies (and Census is by itself larger than the entire Department of Education) these authorities run counter to Department practice and may not be practical due to the small size of the Center. Moreover, the legislation retained all other organizational placement and supervisory relations for NCES, so the separate authority is internally contradictory.

In sum, our emphases in the present represent attempts to correct problems identified in the past and to work towards an appropriate program for the only national agency providing comprehensive information on education in the U.S.

These include:

- Filling out the data systems on elementary/secondary and postsecondary education, with periodic data collection program and predictable publications and data tape releases.
- Expanding the scope and coverage of existing data programs to cover important data gaps.
- Enforcing a series of statistical standards adopted in 1987.
- Establishing internal procedures to assure high technical quality.
- Consulting more consistently with data providers and data users to learn more about needed modifications to our data programs.
- Implementing legislative provisions to strengthen the scope, relevance, quality, and timeliness of the Center's programs.

FUTURE

As the previous section has demonstrated, the Center has traversed an extraordinary period of expansion and change affecting the entire organization and every individual in it. While the changes have frequently had positive consequences for the agency, for its products and its reputation--and often for its staff--there have been obvious strains from the diversity and volume of this recent activity.

The Center faces a period of adjustment and assimilation as Department leadership changes. Adequate staffing remains a substantial challenge. Increased budgets have led--as was intended--to additional data that needs analysis; to publications that must be written; to tapes that must be documented and released; to more questions from users. It will be unrealistic to assume that fifty percent increases in appropriation levels can be sustained, yet the budget proposals and program plans clearly assume further increases to complete the work we have planned. Center staff need sustained and sensitive consideration of their needs for growth and professional advancement. The Hawkins-Stafford Amendments have provisions that require some organizational modifications (e.g., new Associate Commissioner positions; new "cooperative" statistics authorities for elementary/secondary and for public library data; direct reporting of NAEP to the Commissioner).

how is that going?

In August, the senior managers of the Center met for two full days to begin a through introspective assessment of the Center and its future. None of us would say we have a strategic planning process--although we are determined to work toward one. But these two days demonstrated to all of us how essential such a process is. In our assessment of the Center's position, we identified several significant strengths, including the following:

NAEP, HS&B, Digest, Condition report
Work with States
Private school initiative
Involvement of data users and providers
Improving coverage of data
Relationships with other statistics agencies
Written standards
Staff training
Recruitment of technical staff
Technical support from contractors
Bigger budget/new legislation
ASA fellows
Building of rational agency-wide planning process
Involvement of outside groups in planning and support
Employee Advisory Committee
Dedicated staff and management

And we identified some weakness as well, including these:

Adequate time and rationality in decisionmaking
Uneven morale
No tradition of technical excellence
Priority setting among programs
Lack of staff skills in some areas
  - statistical computing
  - math ("heavy duty")
  - advanced analytic skills linked to substantive knowledge
Not enough support staff
Incentives for professional development
Agency-wide personnel resources management
Long-term commitment to some programs
Late-poorly written-opaque-untargeted products
Excessive focus on institutional education

User influence or how and what data are reported
Inadequate analysis
Methodological research program
Overcommitment of staff resources
Topical reports synthesizing data

I should caution that both the strengths and weaknesses listed here represent a first cut rather than a tested-out agreement, a set of priorities or an inclusive identification of strong and weak points. But they are what senior Center managers say, today.

I will conclude these comments by describing the goals we identified in just three areas: agency norms; program content expansion; and staff resources. Granted, these may be refined and extended as we move to questions of tactics (how will the goals be achieved), as we look at all of them in relation to our resources, and as we add to the list from three other areas (efficiency/quality, external relationships and budget priorities). This is a report while our thinking is still underway.

First, the Center needs an environment with shared agency norms and expectations. This would be fostered by institutionalized processes for rational decisionmaking--strategic planning, regular program reviews, a set of known and predictable processes for daily decisions. There should be a unified sense of purpose about the Center's role, who we serve and how we do things. Collegiality and professionalism should characterize our operations and intellectual inquiry and debate should be encouraged in all activities.

Second, the Center cannot function as an institution unless it demonstrates greater sensitivity to its essential staff resources. There must be a center-wide personnel management system covering--for those responsibilities that fall within the Center rather than to OERI or the Department--every aspect of recruitment, assignment and reassignment, development and appraisal, rewards, counseling and monitoring and training. The Center should strive for adequate staff in numbers and in the range and mix of technical, substantive and support expertise. It must create an environment conducive to professional and academic growth of its staff, fostering participation and leadership among various professional communities.

And third, even though our data collections are enormously richer and larger than three years ago, the Center in its budget plans and analysis activities must bear in mind what is not yet covered or not covered sufficiently. In this area, we have identified four areas in particular, as requiring attention:

- ✗ early childhood educational experiences
- ✗ students in higher education
- ✗ out-of-school learning for all ages (including learning in the workplace)
- ✗ reports on special populations.

For the future, then, NCES faces considerable institutional challenges. We are attempting to focus in several broad areas:

- We need to work harder on personnel-related issues. These include morale, training, development, and utilization of current staff as well as recruitment of the appropriate mix of new staff to help with our greatly expanded program.
- The Center needs to develop an expectation that decisionmaking processes are rational--that they conscientiously seek out strengths and weaknesses, devise and evaluate choices, and take account of minority as well as majority points of view. This pertains to the development and modification of data collections and also to the data produced for public consumption.
- The Center must continue to work towards establishing more balance between the resources available to it and the program required of it. To some extent, this will demand identification and adoption of innovative approaches to staffing and obtaining other resources.
- We need to promote a positive self-image for NCES, to encompass an environment in which there is a clearly identified mission and strong motivation to work well and hard to meet that mission.
- We should expand our data collection programs to cover more comprehensively the traditional elementary, secondary, and postsecondary stages of education, but also to encompass educational experiences both before and after these stages. Early childhood education and educational experiences in adulthood play increasingly important roles in our society.

This is an introspective statement, as I noted above. It is a personal view of the condition of the Center as an institution rather than a comprehensive assessment of our statistical data collections. But the condition of the Center as an institution has an enormously powerful influence, over time, on the visible products that come from the Center. The Center itself is a resource we hold in trust, one that calls for prudent investments, one to be nurtured, one to grow in public service and in stature.

ATTACHMENT A

National Academy of Sciences (NAS) 1985-86 Evaluation of NCES and NCES Response as of 1988

1. MISSION, ROLE, RESPONSIBILITIES

NAS proposed increased visibility and a broader mandate for the Center and specifically proposed that:

- NCES have a lead role in determining data needs for assessing the condition of education and responsibility for producing such data;
- Congress and the Secretary demonstrate their support for NCES in budget actions, requests for policy-relevant data and testimony/reports;
- The non-partisan nature and statistical integrity of the Center be strongly supported;
- NCES play a stronger role in education data planning and technical assistance in the Department;
- The Center assume responsibility for the processes that lead to determination of the content of data to be collected; and
- The Center be more visible as the primary Federal statistical agency in education.

Center budgets have been sharply increased by both Administration and Congressional action. The Center has taken the initiative both for planning the "condition" report and also in redesigning its overall data agenda. The Administration in review/clearance procedures and other ways has recognized the need for statistical independence in the Center and the need for Center data to be viewed as insulated from partisan influences. The Advisory Council on Education Statistics (ACES) has played a role in supporting the Center statistical standards program. Congress, through the new confidentiality, technical assistance and other provisions has strengthened the integrity and professionalism of the Center's role in education statistics. The Center's visibility has been increased with growing budgets, with frequent use of data by Department officials, with a new statutory requirement for an annual Commissioner's appearance in Congressional committees to present dropout data as well as other legislated requirements for reports (e.g., indicators, school reform).

2. CONTENT AND DIRECTION OF DATA COLLECTION PROGRAMS

The Academy report recommended continuing efforts to engage data users in dialog as to their needs and ways to reach them more effectively. The Center's 1985 "redesign" was cited as a model for such efforts. In addition it proposed:

- joint analysis of data needs with States to improve content;

- development of a sample-based program for data collection on classroom and students so that understanding of relations among inputs, process and outcomes will increase; and

- inclusion of longitudinal components in sample surveys.

The Center holds advisory meetings and calls on external expertise continuously, but senior staff believe more can be done to use this advice in decisionmaking. The Administration proposed and Congress enacted a Federal-State cooperative elementary-secondary statistics program. The project with the Council of Chief State School Officers (CCSSO) to improve data comparability is a continuing effort that will provide a solid basis for the cooperative statistics program. Expanded data gathering, through the National Assessment of Educational Programs (NAEP), Schools and Staffing Survey (SASS), and National Longitudinal Educational Studies (NELS) surveys, will be used in input-process-outcomes analysis. Longitudinal components are being added to the college student financial aid survey (for monitoring college progress and post-graduation experience) and SASS to monitor teacher-leavers.

3. ESTABLISHING A FRAME OF REFERENCE

This Academy recommended rational planning of Center activities. It called for a process, involving public participation, to organize the Center's program and set priorities for current needs but carefully balanced to maintain essential trend information.

NCES management is engaged in creating a strategic planning system to serve this and other objectives.

4. DESIGNING A PROGRAM

NAS called for modest additional funding for staff but, in general, felt that there should be a demonstrated commitment to improvement before there were large budget increases.

The Administration disagreed with this Academy suggestion and requested, instead, substantial funding increases so that data gaps and quality improvement issues could be addressed simultaneously.

5. ADVISORY COUNCIL

The report noted that the statutory mandate "to establish" standards was inconsistent with the advisory nature of ACES. It proposed that:

- The law be amended to correct the inconsistency;

- The Secretary respond to ACES recommendations;

- Members be selected on the basis of collective expertise in areas related to the NCES mission; and

- Technical advisory groups be created to supplement ACES.

The Hawkins-Stafford Amendments modified the statute as proposed by NAS. The Secretary does provide responses, in writing, to NAS recommendations. ACES membership over the past 3 years has consistently brought together individuals with diverse experiences in statistics, policy and education matters to deal with ACES concerns. The Center has created many continuing program advisory groups and may establish, in connection with the new Associate Commissioner for Statistical Standards and Methodology, one or more technical advisory bodies.

6. IMPROVING DATA QUALITY

These recommendations are probably the most important of NAS proposals and Center responses have probably best described our reaction. The Academy proposed that:

- o Staff and contractors demonstrate technical competence;
    - The Center should develop and use standards in all phases of its work to ensure high quality data
    - There should be a statistical standards "office" and a regular evaluation of programs and methodology
    - A program to develop, disseminate and revise uniform definitions is needed
    - Reports should routinely include information on definitions and sources of error.
- o There be a balance between the use of administrative records and sample surveys;
- o Users be advised routinely about the quality of data, and the limitations inherent in their use;
- o The Center initiate a cooperative program to assess and improve the quality of data from States, localities and institutions of higher education; and
- o That standards be established for review of data releases and procedures to effect them.

The Center has completed, adopted and implemented written standards governing every phase of its statistical activities from planning a data collection to providing caveats on all data in reports. The Secretary has approved a review and clearance policy (updated and revised in September, 1988) that distinguishes between review/comments/advice (with outside involvement) and actual "clearance" (reserved for the Commissioner). A Chief Statistician has been appointed and plans are in progress to build an "office" with evaluation and related functions around that position. Recent legislation strengthens all of these actions.

Both the CCSSO data project and regular reviews with higher education representatives are devising and revising uniform definitions. These are continuing activities. The Center, while examining the need for balance among kinds of surveys, is improving quality and coverage of its universe administrative records collections (Common Core of Data, CCD), Integrated Postsecondary Education Data System (IPEDS) and also conducting sample surveys (e.g., SASS, NPSAS) using the universes for sampling and other purposes. Tabulations from the universes are used in sample weighting and for the analysis and development of missing data.

NCES is now moving to a new level of quality and utility. We are relating the data we collect and publish on a regular basis with data from other sources and other programs in the Department. We are linking Census data with Center data to do forecasting at the State as well as the national level. And we're trying to integrate our collections with other collections so we are truly a part of a Federal statistical system.

7. TIMELINESS

NAS proposed that the Center explore ways to speed up data collection and manage the data collection and production process so that results are available more quickly.

The first project under NCES' ASA fellows program is an exploration of how to take advantage of technology to speed up data production and reporting in the next generation of data management.

Standards call for data tapes within 6 months of survey close out and published reports within 3 additional months. These goals have not always been achieved with the many new studies underway and they remain a challenge. The IPEDS and CCD "early estimates" systems are one way NCES meets the field's need for advanced results.

8. RESOURCES - STAFF AND BUDGET

The Academy analyzed staff needs and Center requirements. Their recommendations are that NCES should:

- Identify the technical and subject matter required to accomplish its mission;
- Initiate an active recruitment program to attract needed mathematical statisticians and substantive experts;
- Provide training and work assignments and develop innovative approaches to ensure professional growth and opportunity for further professional development;
- Clarify lines of authority and responsibility throughout the Center; and
- Seek assistance and cooperation from other Federal statistical agencies;

- Give staff authority and responsibility for carrying out individual projects that meet timelines and established standards;
- Participate more frequently in professional meetings and activities, including preparation, presentation and publication of articles about the Center's work.

The Center staff has increased by twenty-five percent over the past two years.

Although Center managers make frequent ad hoc reassessments of staff needs, strengths and weaknesses, there is not a systematic division and Center-wide evaluation or overall management system for our staff resources. The Center plans to develop a comprehensive staff development and management system in 1989. More use of rationale decision processes is also a goal. Actions to achieve that goal began with establishment of the Chief of Staff position, the embryonic strategic planning process, and other devices for more systematic decisionmaking.

The Chief Statistician has developed and implemented a program of courses, technical seminars and meetings to upgrade professional skills of staff. While professional activities such as preparation of papers for journal publication and participation in conferences are encouraged and have expanded, heavy workloads and a shortage of travel funds curtailed activities this past year.

The Center entered into an agreement with the Bureau of the Census to conduct SASS. In addition, officials of several statistical agencies provided counsel to drafters of recent legislation and frequently advise Center staff on statistical issues, joint efforts and other matters.

9. CONTRACTING OUT OR NOT

In addition to exploring the feasibility of interagency agreements with other Federal agencies, NAS recommended that the Center undertake some projects directly in-house to provide experience in the data collection process.

The Center staff successfully conducted the pilot study of the college faculty survey and the IPEDS early estimates. Staff found these experiences were extremely useful in building capability to resolve complex technical problems and for subsequent contract monitoring.

As noted above, Census is conducting SASS under a joint agreement. Our experience here leads us to explore use of Census capability for other studies in the future.

10. PUBLICATIONS POLICY

The Academy report made several recommendations. It suggested that NCES should:

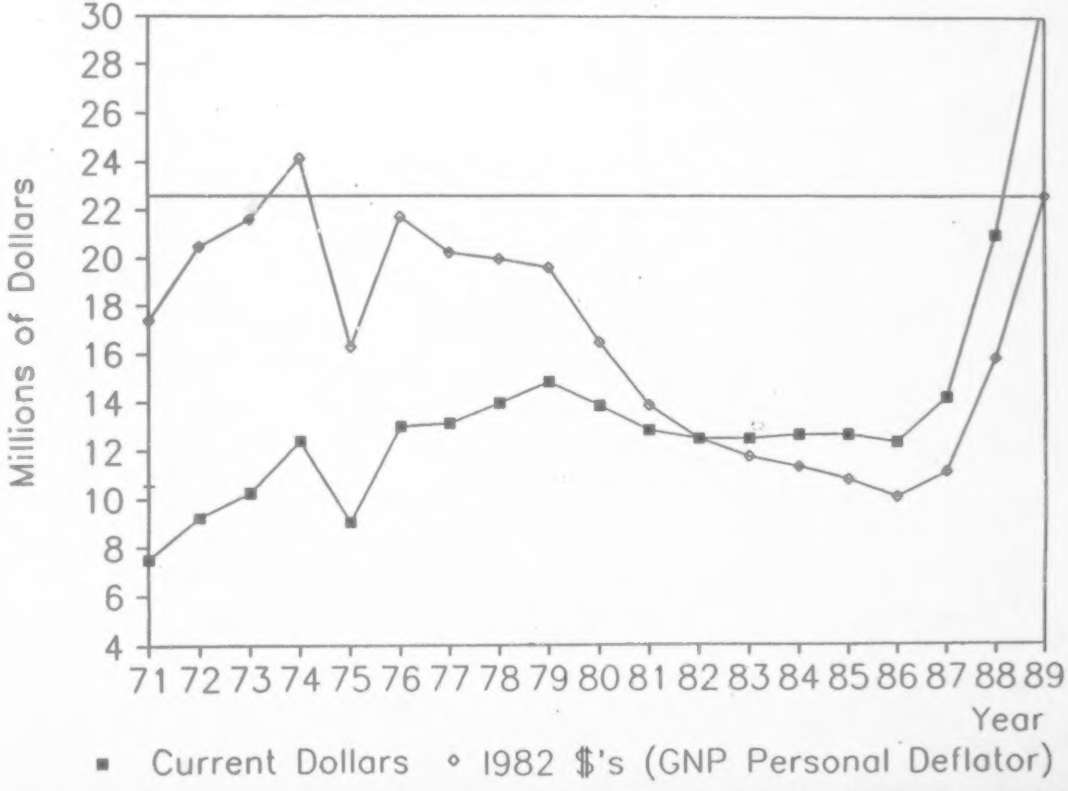
- Define the types of publications it produces and the audiences each is to serve and frequency of release of data;
- Establish, publish and adhere to fixed release dates;
- Include technical information in reports on definitions, methodology, measures of reliability, possible sources of error, references to sources and highlights;
- Monitor NCES use of OERI/Information Services to be certain that guidance is provided on sources, uses, interpretations and limitations of data; and
- Initiate a comprehensive review of its technological capabilities with the objective of developing state-of-the-art capability in the dissemination and distribution of its products.

NCES has developed a series of policy directives on technical specifications for publications, the review and clearance process, and statistical standards spelling out caveats to be reported on data. New legislation calls for publication of lists of Center reports and fixed-release dates will be a feature for fiscal 1989 publications. More emphasis will be given to NCES technological capability as that responsibility becomes a part of the Standards and Methodology office.

FIGURE 1

NCES Plus NAEP Appropriations, 1971–89

Current/Constant 1982 (GNP Personal Deflator) Dollars



ATTACHMENT B

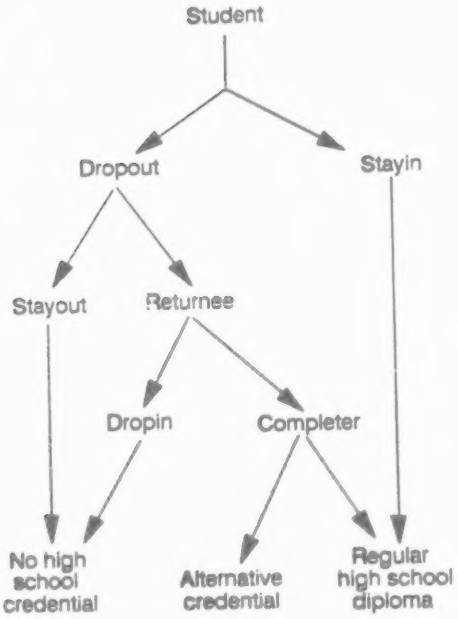
NCES Appropriations 1970 - 1989
(\$ in Millions)

Year	Appropriation
1970	4.3
1971	7.5
1972	9.3
1973	10.3
1974	12.4
1975	9.1
1976	13.0
1977	13.1
1978	13.9
1979	14.8
1980	13.8
1981	12.8
1982	12.5
1983	12.5
1984	12.6
1985	12.6
1986	12.3
1987	14.1
1988	21.0
1989	31.1

NATIONAL CENTER FOR EDUCATION STATISTICS

Analysis Report September 1989

DROPOUT RATES IN THE UNITED STATES: 1988


Student
Dropout
Stayin
Stayout
Returnee
Dropin
Completer
No high school credential
Alternative credential
Regular high school diploma

U.S. Department of Education
Office of Educational Research and Improvement NCES 89-609

NATIONAL CENTER FOR EDUCATION STATISTICS

Analysis Report September 1989

DROPOUT RATES IN THE UNITED STATES: 1988

Mary J. Frase
Crosscutting Education Statistics and Analysis Division

U.S. Department of Education
Office of Educational Research and Improvement NCES 89-609

U.S. Department of Education
Lauro F. Cavazos
Secretary

Office of Educational Research and Improvement
Bruno V. Manno
Acting Assistant Secretary

National Center For Education Statistics
Emerson J. Elliott
Acting Commissioner

National Center for Education Statistics

"The purpose of the Center shall be to collect, and analyze, and disseminate statistics and other data related to education in the United States and in other nations."--Section 406(b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e-1).

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FOREWORD

The National Center for Education Statistics (NCES) collects and publishes information on the condition of education in the United States. The Hawkins-Stafford Elementary and Secondary School Improvement Amendments of 1988 (P.L. 100-297) mandated specifically that NCES collect and publish data about dropping out of school. One of these mandates requires NCES annually to report dropout and retention rates for a 12-month period to the appropriate committees of Congress on the second Tuesday after Labor Day, beginning in 1989. This report was prepared pursuant to that mandate and is NCES' first annual report on dropout rates.

The report focuses on two dimensions of the dropout issue: (1) the extent of the problem and (2) the identification of those students who are most likely to drop out. The introduction provides background information and defines three different types of dropout rates -- event, status, and cohort rates. Separate chapters address the two major issues for each of the different types of dropout rates. A fourth chapter presents information about dropouts who return to complete their high school education. A final chapter summarizes the findings, highlighting similarities among the different rates. Additional tables and technical materials are presented in Appendices.

The report is based on the best and most current national data available at this time. It utilizes the Current Population Survey conducted by the Bureau of the Census to develop event and status dropout rates. Data from the High School and Beyond longitudinal survey conducted by NCES are used to develop cohort rates and high school completion rates for dropouts. NCES is currently pursuing an extensive, integrated program to expand and improve data collected about dropouts in response to the provisions of P.L. 100-297. These efforts were described in an earlier report, Activities to Plan and Implement the Reporting of School Dropout and Retention Indicators: Status Report to the United States Congress on Activities Related to Section 406 (G) of the General Education Provisions Act (GEPA) as Amended by Public Law 100-297, May 1989, and are described briefly in Appendix C of this report.

I hope the information in this report will be useful in discussions about this critical national issue.

Emerson J. Elliott
Acting Commissioner of
Education Statistics

ACKNOWLEDGEMENTS

This report was prepared under the direction of Jeanne E. Griffith, Acting Director, Crosscutting Education Statistics and Analysis Division. Many individuals made substantial contributions to the preparation of this report. Without the assistance of Paul Siegel, Chief, Education and Social Stratification Branch, Population Division, Bureau of the Census, and members of his staff, Rosalind Bruno and Robert Kominski, the sections of this report based on CPS data could not have been prepared. They provided data tapes, special tabulations, and guidance in interpreting the data.

Numerous members of the NCES staff provided assistance in preparing various parts of the report. Jeanne Griffith, Paul Planchon, Jeffrey Owings, and Lee Hoffman reviewed drafts of outlines and table shells during initial stages of the project. Teresita Chan Kopka and William Sonnenberg ran data tapes to produce tabulations from HS&B and CPS respectively. Jeffrey Owings also provided data processing support. William Hussar, Celeste Loar, and William Sonnenberg prepared the figures. Walter West, Susan Ahmed, and Charles Cowan provided statistical advice. Walter West, Lee Hoffman, and Anne Hafner reviewed the descriptions of the future data collections in Appendix C. Brenda M. Wade provided data entry support and assistance in formatting the report. Edith McArthur provided assistance with editing, proofreading, and the covers.

The report was reviewed by Lee Hoffman and Jeffrey Owings of NCES; James Catterall, UCLA; Laura Salganik, Pelavin Associates; and Robert Kominski, Bureau of the Census. Their efforts and contributions are greatly appreciated.

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EXECUTIVE SUMMARY

This document is the first annual report by the National Center for Education Statistics on dropout and retention rates. It focuses on two dimensions of the dropout issue: estimating the extent of the dropout problem and describing the characteristics of those who drop out.

Information is presented in the report pertaining to three different types of dropout rates -- event, status, and cohort. The types of dropout rates are defined and highlights from the findings are presented below.

Types of Dropout Rates

Each of the three types of dropout rates measures a different facet of dropping out.

- Event dropout rates measure the proportion of students who drop out in a single year without completing high school.
    - Event rates are important because they reveal how many students are leaving high school each year and how each year's rates compare with previous ones.
- Status dropout rates measure the proportion of the population who have not completed high school and are not enrolled at one point in time, regardless of when they dropped out.
    - Status dropout rates are important because they reveal the extent of the dropout problem in the population and therefore suggest the magnitude of the challenge for further training and education that will permit these individuals to participate more fully in the economy and the life of the nation.
    - Status dropout rates are much higher than event dropout rates because they represent the cumulative impact of the annual event dropout rates over a number of years.

- Cohort rates measure what happens to a single group (or cohort) of students over a period of time.
  - By following a single group of students, cohort rates provide insights into the dynamics and timing of dropping out and returning to school.

Dropout and Retention Rates

Although the annual (event) dropout rate seems relatively low, the cumulative effect over many years results in large numbers of young people who are not in school and have not completed high school. The problem of dropouts in the society would be even greater if a substantial share of dropouts did not earn a diploma or an equivalency credential within a few years after they dropped out.

- Between October 1985 and October 1988, an average of 4.4 percent of all students in grades 10-12 dropped out of high school. An average of 95.6 percent were retained in grades 10-12 each year during that period. (Event rate)
- In October 1988, nearly 13 percent of all 16- to 24-year-olds, nearly 4.2 million young adults, were out of school and had not completed high school. (Status rate)
- Among the sophomore class of 1980, 17 percent failed to graduate by June of 1982. (Cohort rate)
- Dropping out of high school is not an irrevocable action. Many dropouts later complete high school, often within a short period after dropping out. Nearly half (46 percent) of the dropouts from the sophomore class of 1980 had completed high school by 1986, that is, within four years of the expected date of their graduation. (Cohort rate)

Trends in Dropout Rates

Despite the popular impression that dropout rates have been rising, in fact dropout rates have been declining over the past ten years (Figures A and B). Rates have declined for both blacks and whites, with sharper declines for blacks. The rates for Hispanics have not declined.

- The event dropout rate has declined about two percent over the past ten years. It was 6.6 percent in 1978.

- The proportion of 16- to 24-year-olds out of school and not high school graduates gradually decreased between 1968 and 1986 from 16 to 12 percent. (Status rate)

- Event and status dropout rates for blacks have declined considerably, resulting in a narrowing of the differential between black and white dropout rates -- from 13 percent in 1968 to 2 percent in 1988 (for status rates) among 16- to 24-year-olds.

- There has been no consistent trend in Hispanic dropout rates (event and status) upward or downward over the past 15 years. Hispanic dropout rates have remained high throughout the period. For example, between 9 and 11 percent of Hispanic students dropped out of high school each year.

Characteristics of Dropouts and Factors Associated with Dropping Out

Individual/Family Characteristics

Dropout rates are related to a variety of individual and family demographic and socioeconomic characteristics. In general, dropout rates are higher for minority students and for those coming from disadvantaged backgrounds.

- Dropout rates are higher for blacks and Hispanics than for whites. However, the majority of dropouts are white. For example, the cohort dropout rates for whites, blacks and Hispanics were 15, 22, and 28 percent respectively. Nevertheless, whites accounted for 66 percent of all dropouts.

- About one-third of all Hispanics ages 16-24 were not enrolled in school and not high school graduates in 1988.

- Cohort dropout rates for American Indians/Alaskan Natives were quite high (35 percent), while those for Asian students were very low (8 percent) compared to whites (15 percent).

- Dropout rates for males tend to be higher than those for females, e.g., status rates of 13.5 percent and 12.2 respectively.

- Males and blacks tend to take longer than females and whites to complete high school. Higher proportions of males and blacks are still enrolled in school below the college level at ages 18 and 19.

- Dropout rates are higher for students coming from low socioeconomic backgrounds, from single-parent families, and from nonEnglish language family backgrounds.

	Cohort dropout rate
Socioeconomic status	
Highest quartile	7 percent
Lowest quartile	22 percent
Family structure	
Two parents present	12 percent
One parent present	22 percent
Home language background	
NonEnglish only	20 percent
English only	15 percent

- When blacks and whites from similar social backgrounds are compared, dropout rates for blacks are not higher, and in some cases may be lower, than those for whites.

Location

The dropout problem is particularly severe among young Hispanics in the West. It is also greater in cities than in suburbs and nonmetropolitan areas.

- Dropout rates are higher in central cities than in the suburbs and nonmetropolitan areas. The event rate for 1987 was 5.9 percent in central cities, 4.2 percent in nonmetropolitan areas, and 3.7 percent in suburbs.
- Among 16- to 24-year-olds, a majority of blacks (58 percent in 1988) live in central cities where dropout rates are high, while half of whites live in the suburbs where the rates tend to be low. Blacks and whites living in the suburbs do not differ from one another in their dropout rates, nor do those living in central cities.
- Dropout rates are lower in the Northeast than in the South and West. For example, in 1987, the proportion of 10th-12th graders who left school were:

Northeast	3.2 percent
South	5.0 percent
West	4.9 percent.

- Hispanics constitute a majority (58 percent) of dropouts in the West, but only one-fourth in the country as a whole.

- About 12 percent of dropouts ages 16-24 in 1988 had completed six or fewer years of schooling. However, that proportion was more than twice as high (27 percent) in the West and for Hispanics (31 percent). The proportion is high in the West because Hispanics represent such a large share of the dropouts in that region.

Behavioral factors

- Individuals who marry or have children prior to the time they would graduate from high school are more likely to drop out.
- Students with a history of problems with school authorities or the law are more likely to drop out of school.

School experiences

A student's previous success in and commitment to school are related to the likelihood of dropping out. Those who have been less successful and have missed more school are more prone to drop out.

- Those with poor grades, who have repeated a grade, or who are overage for their grade are more likely to become dropouts than other students. Cohort dropout rates were 7 percent or less for those with B averages or better and 35 percent or higher for those with less than a C average. Cohort rates were twice as high for those who had repeated a grade (31 percent) as for those who had not (14 percent).
- Prior school attendance patterns are related to the likelihood of dropping out. Students who miss many days of school for reasons other than illness are more likely to drop out than those who miss few, if any, days.

Composition of Dropouts

The characteristics of the typical dropout do not always mirror the population groups with high dropout rates. In fact, most dropouts do not come from backgrounds that place them at greater than average risk of dropping out. Two factors contribute to this pattern. First, the groups with lower dropout rates generally form a much larger share of the total population. Second, even in those population groups with high dropout rates, only a minority of students drop out.

- Most students "at-risk" of dropping out -- based on their background or prior experiences and behavior -- do not drop out. For example, almost 80 percent of students from single-parent families do not become dropouts.

- The majority of dropouts are not "at-risk" students, partly because most "at-risk" students stay in school and partly because the total number of students in many "at-risk" categories is relatively small. For example, while dropout rates are much higher for students who have less than a C average than for other students, 60 percent of dropouts have C averages or better.

- As a result of these factors, the characteristics of dropouts on a number of dimensions may be somewhat surprising. Of the dropouts from the 1980 sophomore class:

  - 66 percent were white,
  - 86 percent had an English language home background,
  - 68 percent came from two-parent families,
  - 42 percent attended suburban high schools,
  - 80 percent had neither children nor spouses, and
  - 71 percent had never repeated a grade.

Characteristics of Dropouts Who Later Complete

The same characteristics that are related to the likelihood of dropping out also tend to be associated with the likelihood of a dropout later earning a diploma or an equivalency certificate.

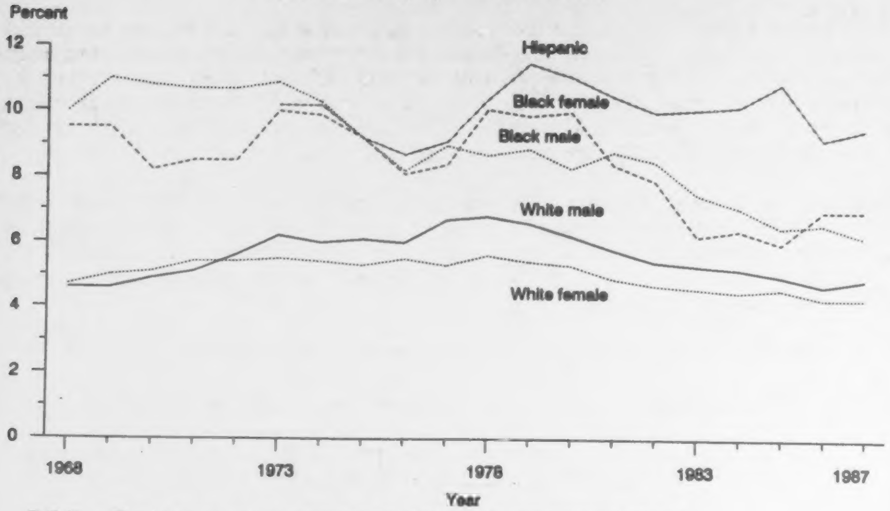
- Asian dropouts are most likely to complete; American Indian and Hispanics dropouts least likely. Black and white dropouts do not differ in their completion rates in the first few years after dropping out of high school.

- Dropouts from high SES backgrounds and with better grades while in school tend to complete more frequently than those from low SES family backgrounds and with poor grades.

- Dropouts are not a homogeneous group in terms of their characteristics or their behavior. Dropouts who complete tend to resemble students who never left school in their characteristics, experiences, and attitudes. Among all dropouts, those who do not even attempt to return to school differ the most from those who never left.

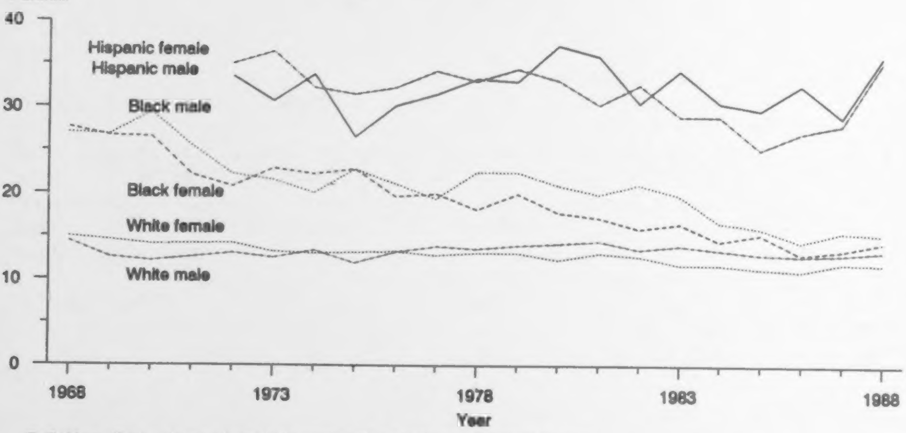
- The earlier the grade when a student drops out, the less likely s/he is to later complete high school and if s/he does complete, the more likely it is to be by means of an equivalency certificate.

Figure A. Average event dropout rate from grades 10-12, ages 14-24, by race/ethnicity by sex: 1968 to 1987



Definition: Event dropout rate is the proportion of students who drop out in a single year.

Figure B. Status dropout rate, ages 16-24, by race/ethnicity by sex: October 1968 to 1988



Definition: Status dropout rate is the proportion of the population who have not completed high school and are not enrolled at one point in time.

Note: Hispanics may be of any race.

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

INTRODUCTION

Concern about dropouts has increased considerably at all levels of government and society in recent years. As a result, the demand for data about dropouts has also increased and comes from a variety of sources, looking for many different types of information. At the present time, accurate and reliable information with which to answer many of the questions about dropouts is not available. The Congress and the National Center for Education Statistics (NCES) have taken steps to remedy this lack of data.

Legislation on Dropout Statistics. The new authorizing legislation for NCES, section 406 of the General Education Provisions (GEPA), as amended by the Hawkins-Stafford Elementary and Secondary School Improvement Amendments of 1988 (P.L. 100-297) (20 U.S.C. 1221e-1) contains three mandates for the Center about the collection and reporting of dropout statistics. Specifically, NCES is to:

o Conduct an annual survey of dropout and retention rates;

o Report a dropout rate for a 12-month period to Congress every year; and

o Establish a Special Task Force on Dropout and Retention Rates to develop and test an effective methodology for measuring dropout and retention rates.[1]

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[1] The actual legislative language of the dropout provisions pertaining to NCES in Sec. 406 of GEPA, as amended is:

(f) (2) "In addition to other duties of the Commissioner under this section, it shall be the responsibility of the Commissioner to issue regular public reports to the President and Congress on dropout and retention rates, results of education, supply and demand of teachers and school personnel, libraries, financial aid and on such other education indicators as the Commissioner determines to be appropriate....

(g) (4)(A) The Center shall conduct an annual national survey of dropout and retention rates as an education indicator.

(B) The Commissioner shall appoint a special task force to develop and test an effective methodology to accurately measure dropout and retention rates. Not later than 1 year after the date of enactment of the Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988, the task force shall submit a report of its recommendations, including procedures for implementation of such recommendations, to the Commissioner and the appropriate committees of the Congress.

(C) On the second Tuesday after Labor Day of 1989 and on each such Tuesday thereafter, the Center shall submit a report to the appropriate committees of the Congress of the dropout and retention rate prevailing on March 30 of each such year."

This document is the 1989 NCES report to Congress on dropout and retention rates, the first of the annual reports due on the second Tuesday after Labor Day. The report focuses on two dimensions of the dropout issue: estimating the extent of the problem and describing the characteristics of those who have dropped out. Thus the focus is on answering two questions: What is the dropout rate? and Who are the dropouts?

Counting Dropouts. A major element in reporting data about dropouts is defining who is a dropout, since dropouts can be and are defined in a variety of ways. Furthermore, dropout rates can be calculated in many ways. In this report, three different types of dropout rates -- event, status, and cohort rates -- are discussed.

Currently, NCES is developing several new data collections intended to gather more extensive and reliable information about dropouts. These are described in Appendix C. However, it will be the early 1990s before improved data on dropouts will be available from any of these efforts, since it takes a considerable period of time to design, field test, and implement a new data collection.

In the meantime, NCES will continue to report national figures on dropouts from the existing sources. Therefore, this 1989 report and those for the next two to three years will draw primarily from two data sources: the Current Population Survey (CPS) conducted by the Bureau of the Census, and High School and Beyond (HS&B), a longitudinal survey conducted by NCES.

Types of Dropout Rates. There are several different ways of thinking about dropouts. First, the transition of a student from being in school to not being in school (without graduating in the meantime) indicates the event of dropping out. The number and rate of these transitions or events can be measured over a period of time, such as a school or calendar year. Second, the number of persons who have ever dropped out and not subsequently completed school can be counted at a given time. This reflects the status of persons in the population with respect to being a dropout at that point in time.

Both perspectives give valuable information: the former tells how many people left school without completing high school during a specific time period while the latter indicates how many dropouts there were in the population at a given point in time, regardless of when they had dropped out. When dropping out is reported as an event, a person is counted as a dropout only for the period in which the dropping out occurred. When reporting on dropout status, a person is counted as a dropout until and unless s/he completes high school. Data from CPS can be used to calculate both event and status rates.

A third perspective relates to the behavior of a given class, or cohort. For example, out of an entering ninth grade class, what proportion drop out at any time before graduating from high school or do not graduate with their class? Answers to these questions yield cohort dropout rates. Focusing on a single cohort makes it possible to answer questions about how many dropouts eventually complete high school with a diploma or an alternative credential. The HS&B 1980 sophomore cohort provides data on a single tenth grade cohort.

GEPA as amended requires that NCES report annually about retention rates. A student who has not dropped out (or graduated) is considered as having been retained in school for that year. This identifies retention in school as an event in a given year. For retention, the concept of status does not apply.

Completion Rates. Much of the discussion of dropout rates in the past has been based on measures of high school graduation or completion rates, from which estimates of dropout rates have been derived. Examples of these rates include percent of a certain age group having completed high school or "graduation rates" that show graduates as a percent of 9th graders four years earlier. These indirect estimates are not comparable to the direct measures of dropout rates utilized in this report, because they do not explicitly measure the phenomenon of dropping out.

They also tend to imply much higher dropout rates than the direct measures, for a variety of reasons. One such measure does not take into account the fact that 10 to 14 percent of 18- and 19-year-olds are still in high school. Other measures are not as comprehensive as CPS in counting high school completers, e.g., excluding private school graduates and those with equivalency credentials. Differences in data collection methodologies and the way in which the graduation measures are calculated may also contribute to lower estimates of graduation/completion rates. These rates are discussed in more detail in Appendix B.

Content of the report. The remainder of the report is organized around these different tvpes of dropout rates. There are separate chapters on event, status, and cohort rates. For each type of rate, available data are presented about the number of dropouts, how the rate has changed over time, and the characteristics of dropouts in the most recent period. There is also a section about dropouts returning to school. How often does it occur and which dropouts are most likely later to complete their high school education? Appendices provide additional tables and technical material; other types of dropout-related measures; and information on current and potential data sources about dropouts.

The data presented in this report are derived from sample surveys. All comparisons in the text have been tested to ensure that the differences are unlikely to be the result of sampling variation rather than counting everyone in the population.[2] Appendix D discusses technical issues related to the definition and computation of the dropout rates presented in this report.

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[2] All comparisons discussed in the text are statistically significant at the .05 level. See Appendix D for details about the significance testing.

EVENT RATES

One approach to measuring the extent of the dropout problem is to examine how many students enrolled one year ago have since dropped out of school without obtaining a diploma or an equivalency certificate. Event dropout rates can be calculated for the 12-month period from one October to the next using data from the October Supplement to the Current Population Survey (CPS). In order to increase the ability to detect differences in event rates among subgroups and over time, three-year average event rates -- the average of the rates for three successive years -- were developed.[3]

Most recent event rates. Approximately 3.3 percent of all 14- to 24-year-old students dropped out of grades 8-12 each year, on average, during the three-year period from October 1985 to October 1988 (Table 1). The dropout rate was somewhat higher for those enrolled in grades 10-12, 4.4 percent. The retention rate in school for the three year period was about 96.7 percent for grades 8-12 and 95.6 percent for grades 10-12. (Calculation of these rates are discussed in the last section of this chapter.)

The 4.4 percent represents the proportion of all tenth to twelfth graders who dropped out of high school in a single 12-month period. Over three years, an annual dropout rate of 4.4 percent would translate into a dropout rate of about 12.6 percent for a group of tenth graders before they completed twelfth grade, or a school retention rate over three years of 87.4 percent. A seven percent annual dropout rate would result in a 20 percent dropout rate between tenth and twelfth grade; a ten percent annual rate would result in a 27 percent dropout rate between tenth and twelfth grade.

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[3] The first use of CPS data to calculate an event dropout rate was in U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October 1983," Current Population Reports, Series P-20, No. 413. The methodology for calculating the rates, the use of three-year averages, and rates for 1968 to 1985 were developed and analyzed by Robert Kominski on the staff of the Bureau of the Census. See R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989.

Table 1 displays the last three individual year rates in order to show how the three-year average is calculated. It is simply the sum of the three individual year rates divided by three. To give some sense of what has been happening in the most recent period, two-year average rates are also shown in Table 1 for the 1986-1988 period. For the rest of this section, only three-year averages will be used. There were no significant differences among the rates for single years or between the two-year averages in the period from 1986 to 1988.

Table 1. Event dropout and retention rates for ages 14-24: 1986-1988

Rate and year ending	Grade	
	8-12	10-12
	Percent	
Event dropout rate		
Single year		
1986[*]	3.27	4.28
1987	3.15	4.11
1988	3.56	4.82
Two-year average		
1986-1987	3.21	4.20
1987-1988	3.36	4.46
Three-year average		
1986-1988	3.33	4.40
School retention rate		
Single year		
1986[*]	96.73	95.72
1987	96.85	95.89
1988	96.44	95.18
Two-year average		
1986-1987	96.79	95.80
1987-1988	96.65	95.54
Three-year average		
1986-1988	96.64	95.60

[*] Data revised from previously published figures. See Appendix D.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished data.

While the event dropout rate may seem low when expressed as a percentage of all students enrolled in school, a large number of students drop out in a single year. The estimated 3.6 percent event dropout rate for students in grades 8 to 12 between October 1987 and October 1988 reflects 569 thousand 14- to 24-year-olds who dropped out during this one year. The 4.8 percent event rate for grades 10-12 represents 461 thousand students dropping out of high school in the 12-month period.

Who is most likely to drop out? While the national event dropout rate for grades 10-12 over the past three years has been approximately 4.4 percent, that rate was not uniform across all geographic locations or categories of students. For the three-year period, October 1985 to October 1988, event dropout rates were higher for minority students and for older students (Table 2). The rates for men and women were not significantly different. Dropout rates were higher in cities than in suburban and nonmetropolitan areas and in the South and West than in the Northeast (Table 2).

While event dropout rates for blacks and Hispanics were higher than for whites, the majority of dropouts were not black or Hispanic.[4] Of all dropouts, blacks constituted about 20 percent and Hispanics 16 percent during this period (Table 2). Most dropouts were between the ages of 16 and 19 at the time of the CPS survey, with nearly half being 18 or 19 at the time of the survey. Similar proportions of dropouts lived in central cities as in the suburbs, about forty percent. About 20 percent lived in nonmetropolitan areas.

Table 3 shows how event dropout rates of the three racial/ethnic groups varied within regions and types of metropolitan status. Because the black and Hispanic samples are small, further subdividing them makes the margin of error of the estimates rather large. As a result, despite the large range in dropout rates among subgroups in Table 3, the only difference within regions that is statistically significant is that between whites and Hispanics in the West. Within the categories of metropolitan status, the differences between whites and Hispanics are significant in central cities and suburbs. In all three cases, the event dropout rate for whites was lower than that for Hispanics. If sample sizes for blacks and Hispanics were larger, it is possible that more of the differences in Table 3 would be significant.

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[4] The racial/ethnic categories in the tables based on CPS data are not mutually exclusive. Most Hispanics are double-counted because Hispanic origin is considered an ethnic classification in CPS. In terms of race, most Hispanics are included in the white category based on self-identification, but some are included in the black category and a few identify themselves as "other," which is not shown in these tables.

Table 2. Average event dropout and retention rates (three-year average) and distribution of dropouts from grades 10-12, ages 14-24, by sex, race/ethnicity, age, region, and metropolitan status: 1986-88

	Event dropout rate	School retention rate	Percent of all dropouts
		Percent	
Total	4.40	95.60	100.0
Sex			
Male	4.62	95.38	53.2
Female	4.17	95.83	46.8
Race/ethnicity			
White	4.20	95.80	77.3
Black	5.78	94.22	19.8
Hispanic[1]	9.27	90.73	16.2
Age[2]			
14-15	2.11	97.89	1.6
16-17	2.77	97.23	37.2
18-19	6.03	93.97	47.3
20-24	22.72	77.28	13.9
Region			
Northeast	3.17	96.83	14.6
Midwest	4.19	95.81	24.7
South	5.04	94.96	38.5
West	4.86	95.14	22.1
Metropolitan status			
Central city	5.86	94.14	37.8
Suburban	3.66	96.34	40.4
Nonmetropolitan	4.19	95.81	21.9

[1] Hispanics may be of any race.

[2] Age when a person dropped out may be one year younger, since the dropout event could occur at any time over a 12-month period.

Note: Percentages may not sum to 100 percent due to rounding.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

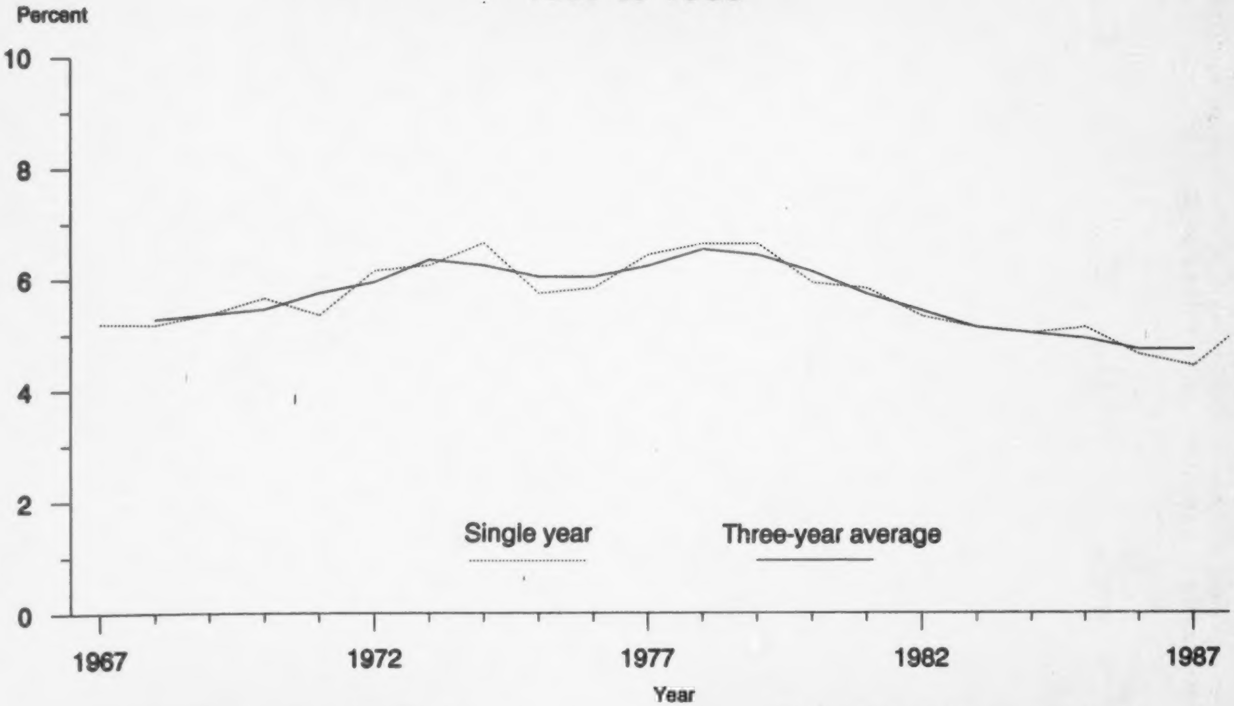
Table 3. Average event dropout rate (three-year average) from grades 10-12, ages 14-24, by region and metropolitan status by race/ethnicity: 1986-88

Region and metropolitan status	Total	Race/ethnicity		
		White	Black	Hispanic*
	Percent			
Total	4.40	4.20	5.78	9.27
Region				
Northeast	3.17	2.83	6.12	8.17
Midwest	4.19	3.87	7.10	7.75
South	5.04	4.86	5.44	9.62
West	4.86	5.09	4.33	9.96
Metropolitan status				
Central city	5.86	5.49	7.21	10.26
Suburban	3.66	3.67	4.04	7.79
Nonmetropolitan	4.19	4.13	4.25	11.44

* Hispanics may be of any race.
Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

Changes in dropout rates over time. The latest three-year average event dropout rate for grades 10-12 in 1987 was approximately the same as it was twenty years ago. However, in the interim period, the dropout rate rose for about ten years and has fallen since the late 1970s (Figure 1 and Table A1). For 1978, the average event rate was 6.6 percent. Graphing both the three-year averages and rates for single years (Table A2) since 1967 in Figure 1 demonstrates how the three-year average is somewhat more stable than the single-year rates.

Figure 1. Event dropout rate for grades 10-12, ages 14-24, by single year and three-year averages: 1967 to 1988



Note: In order to facilitate comparisons with earlier years, rates for 1986 to 1988 have been adjusted to take into account changes in data editing procedures. Therefore, the rates for these years may be slightly higher than those shown in Table 1. See Appendix D for a discussion of the adjustment procedure.

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Over the past two decades, trends for white males and females were similar to those for the total population (Figure 2 and Table A3). The event dropout rate rose for both males and females between 1968 and 1978 and decreased after that. The net effect over the entire period for males was no change in the dropout rate and a slight decrease for females. Between 1968 and 1986, the rates for white males tended to be slightly higher than for white females.[5]

For blacks, event dropout rates for males and females did not differ significantly over the twenty-year period as a whole (Figure 2 and Table A3). However, for both groups the rates have declined over this period. Rates for black males have been declining since the early 1970s. While rates for black females have been more erratic, they have declined in the 1980s. The result has been a considerable narrowing of the differences between the rates for blacks and whites, especially in the 1980s. Rates for Hispanics have shown no consistent trend over the past 15 years (Figure 2), but have remained high throughout the period.[6]

While the current attention to the dropout issue may have conveyed the impression that the dropout rate is presently very high and has been increasing, national data do not confirm that picture. In fact, while there was an increase in the annual dropout rate between 1968 and 1978, since then the rate has been declining. Furthermore, while dropout rates for black youth are still higher than for white youth, the differential between the rates for whites and blacks has narrowed considerably.

Data Source. The Current Population Survey's October Supplement is the only existing national data source that can be used to estimate an annual national dropout rate (event) or the number of dropouts nationally regardless of when they dropped out (status). It is also the only source of time series data about dropout rates.

The CPS is a nationally representative sample survey of all households. The annual October Supplement obtains information about school enrollment and educational attainment for each member of a household. To identify dropout events, it asks about enrollment one year prior to the interview. For calculating a 12-month event rate, dropouts are defined as those not currently enrolled in school, who were enrolled October a year ago and are not high school graduates.

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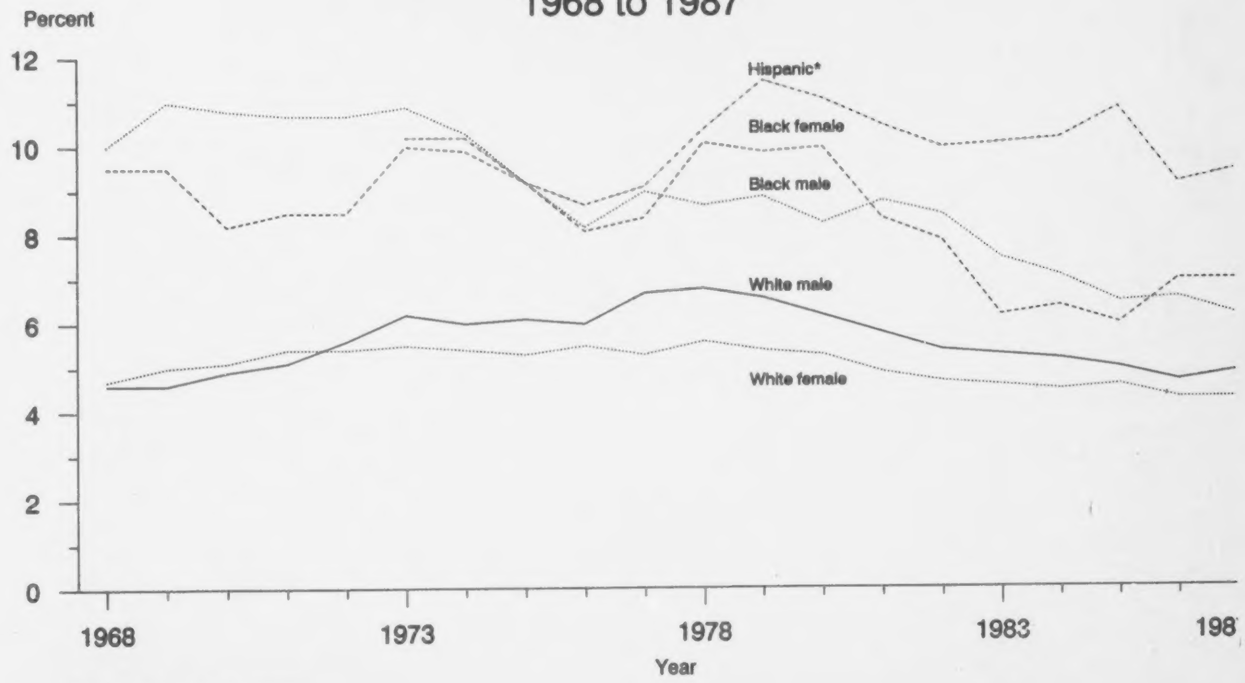
[5] The difference between white males (4.4 percent) and females (4.0 percent) for the most recent three-year period (1986-1988) was not statistically significant.

[6] Part of the problem in examining rates for Hispanics using CPS is the relatively small sample size for that population. The margins of error for estimates of Hispanic dropout rates are relatively large, 1 percent or more.

Figure 2. Average event dropout rate from grades 10-12, ages 14-24, by race/ethnicity by sex: 1968 to 1987



*Hispanics may be of any race.

Note: In order to facilitate comparisons with earlier years, rates for 1986 and 1987 have been adjusted to take into account changes in data editing procedures. See Appendix D for a discussion of the adjustment procedure.

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Because the CPS sample captures relatively few individuals who have dropped out in the last 12 months (approximately 350-400 in the nearly 60,000 CPS households), national estimates of dropout event rates are not very precise and estimates for subgroups, such as racial/ethnic groups, are even less so. Therefore, the CPS data for single years are not very helpful for monitoring changes in event rates on a year-to-year basis or differences among subgroups, since only relatively large differences are statistically significant.[7]

However, averaging rates over three years yields estimated event rates which are somewhat less erratic and have smaller standard errors, because they are based on larger sample sizes.[8] This makes differences over time and between groups easier to detect. Three-year averages are reported in this section. The three-year average is attributed to the middle of the three years.

CPS asks the question on enrollment the previous October only about individuals 14 years and older. Except for Table 1, tables in this section display dropout event rates for people 14 to 24 and for grades 10 to 12. Lower grades are not included because many currently enrolled students and some dropouts from those grades are less than 14 years old. Included in the grade 10-12 rate are students who completed the ninth grade last year, but did not return in the fall to begin tenth grade.

CPS contains somewhat limited information about individual characteristics. Measures of socioeconomic status refer to the time of the survey, which is after, not before, the event of dropping out. Data are available on race and ethnicity and much of the analysis in this report is based on differences among racial/ethnic groups. Race and ethnicity may in fact not be the operant variables, but serve as proxies for background variables such as income, education, and single-parent families, which tend to be correlated both with race/ethnicity and the likelihood of dropping out.

In response to statutory specification for dropout data as of March, NCES intends to produce a supplement to this report with data available from the March 1988 CPS Supplement, comparing the dropout rates from the March CPS to those from the October survey.

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[7] Given the 1988 level of event dropout rates and CPS sample sizes, for a year-to-year change in the event rate to be significant at the .05 level, the change would have to exceed .9 percent for the national rate, 2.8 percent for blacks, and 5.1 percent for Hispanics.

[8] R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989.

STATUS RATES

Another approach to measuring the magnitude of the dropout problem is to examine the number of individuals who are dropouts at any given point of time, regardless of when they left school. Status dropout rates can be calculated from CPS data using as the definition of a dropout, anyone who is not enrolled in school at the time of the October CPS survey and who has not completed high school. High school completion may be through obtaining a high school diploma or equivalency certificate. Except for Table 5, the tables in this section present data on status dropout rates for those 16- to 24-years old as of October 1988.

Trends in status dropout rates. In October 1988, approximately 4.2 million 16- to 24-year-olds were out of school and had not completed high school (Table 4). This represented nearly 13 percent of such young adults. The long-term trend for the status dropout rate has been downward. Between 1968 and 1986 that rate fell by almost one-fourth, from 16 to 12 percent (Figure 3 and Table A4).[9] In the short-term, there was a slight increase between 1986 and 1988, from 12.1 to 12.9 percent.

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[9] Over a longer period, the decline in the status dropout rate has been quite dramatic. For those ages 55 and older, the status dropout rate in 1988 was 39 percent, and the rate was 21 percent for those between 45 and 54 years old. Because of the very high proportion who did not complete high school among those 55 and older, that age group accounts for about half of all dropouts. In the entire population 16 and over, there were approximately 39.4 million status dropouts in October 1988, of whom 19.6 million were 55 or older.

Table 4. Rate and number of status dropouts, ages 16-24: October 1986, 1987, and 1988

	October 1986	 1987	 1988
Status dropout rate (percent)	12.08*	12.71	12.86
Number of status dropouts (in thousands)	4,101*	4,251	4,231
Population (in thousands)	33,942	33,452	32,893

* Data revised from previously published figures. See Appendix D.
Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

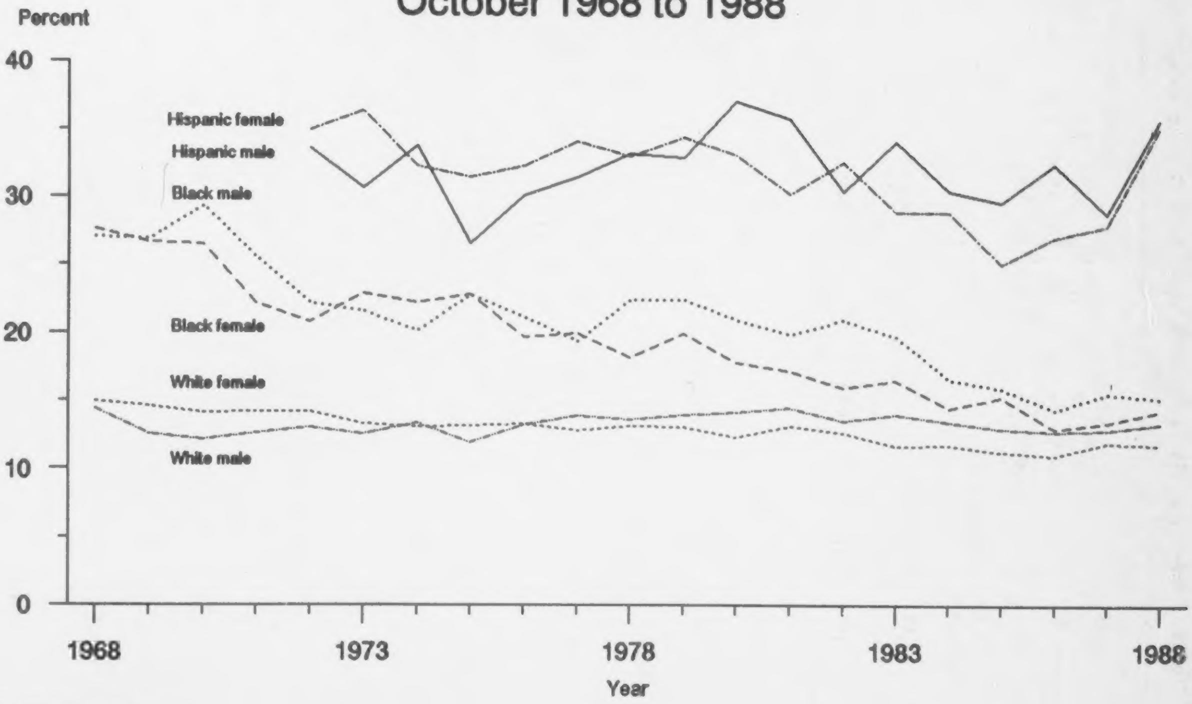
What are the characteristics of dropouts in the population? Variations among population subgroups for the status measure of dropping out are generally similar to those for the event measure (Table 5). Status dropout rates were higher for minorities and in the South and West. They were highest in central cities and lowest in suburbs. Particularly striking was the very high status dropout rate for young Hispanics in October 1988, nearly 36 percent.

Race and status dropout rates. Similar to the patterns for event dropout rates, the differences between the status dropout rates of black and white young adults have narrowed considerably in the last 20 years (Figure 3; Tables A4 and A6). In 1968, the rate for blacks was nearly double that for whites, 27.4 percent and 14.7 percent respectively. In the late 1980s, the rates for blacks have fallen to the levels of whites in the late 1960s. The rates for whites have declined much less than those for blacks over the twenty years.

The substantial decline in black status dropout rates was evident for both males and females in the 1968-1986 period. Among whites, there was a slight decline for females, but not for males.

Among Hispanics as a group and for Hispanic males, there was no decline in status dropout rates over this period. However, there was some decline for Hispanic females. The most striking characteristic of dropout rates for Hispanics is their volatility, which is due, at least in part, to the small CPS sample size for Hispanics. Between 1986 and 1988, the status dropout rate for Hispanic males varied from 32.7 percent in 1986 to 29.0 percent in 1987 to 36.0 percent in 1988. The rates for Hispanic females for the three years were 27.2 percent, 28.1 percent, and 35.5 percent.

Figure 3. Status dropout rate, ages 16-24, by race/ethnicity by sex: October 1968 to 1988



Note: Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment– Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table 5. Rate and number of status dropouts, ages 16-24, by sex, race/ethnicity, age, region, and metropolitan status: October 1988

	Status dropout rate (percent)	Number of status dropouts (in thousands)	Population (in thousands)
Total	12.86	4,231	32,893
Sex			
Male	13.52	2,181	16,132
Female	12.23	2,050	16,761
Race/ethnicity			
White	12.66	3,423	27,043
Black	14.87	698	4,693
Hispanic*	35.78	1,169	3,269
Age			
16	5.30	184	3,477
17	8.08	298	3,683
18	13.96	535	3,834
19	15.26	528	3,459
20	14.61	508	3,476
21	14.58	510	3,498
22	16.06	564	3,510
23	13.47	518	3,847
24	14.27	586	4,108
Region			
Northeast	10.63	705	6,631
Midwest	9.27	778	8,392
South	14.99	1,672	11,159
West	16.03	1,076	6,711
Metropolitan status			
Central city	16.11	1,764	10,953
Suburban	10.47	1,598	15,269
Nonmetropolitan	13.04	870	6,671

* Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

The majority of status dropouts are white (Tables 5 and A5; Figure 4), as was the case for event dropouts. Since 1986, Hispanics have outnumbered blacks among status dropouts.

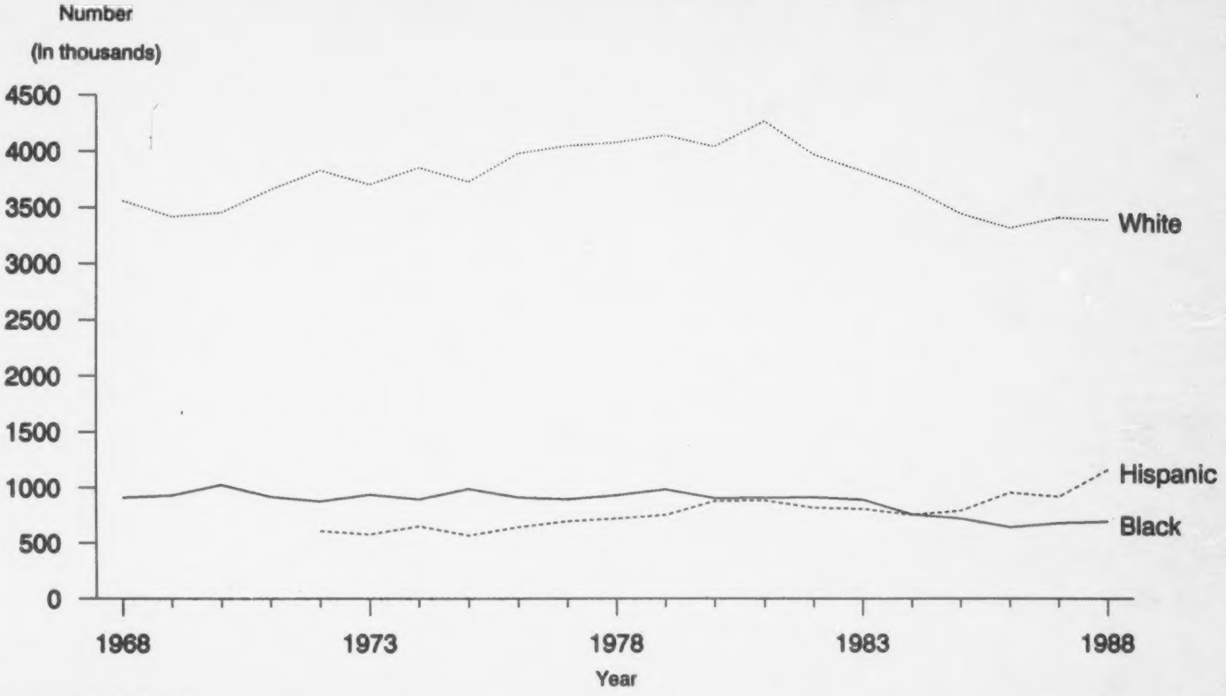
Status dropout rate by sex. Over the past 20 years, there has been a change in the relationship between sex and the status dropout rate. In part, this reflects different trends in the rates for males and females over the period. The rates for women generally declined throughout the period. The decline in male rates was broken by an increase in rates during the second half of the 1970s. In 1980, the rate for males was not lower than it had been in 1969, whereas the rate for females had declined by nearly three percentage points between 1969 and 1980. As a result, at the beginning of the period the rate was higher for females than for males, but since 1977, the rates for males have been higher (Figure 5 and Table A6).

Some of the difference in male and female trends may reflect the influence of the draft. CPS covers the civilian, noninstitutionalized population. In part because of the exclusion of the military, the CPS estimates for the number of 16- to 24-year-old males are lower than for females of the same age throughout the period. However, the size of that differential declined -- from two million more females than males in 1968 and 1969 to 400-600 thousand more females since 1981 -- as the size of the Armed Forces decreased with the end of the Vietnam War. In addition, the transition to the all-volunteer Army was accompanied by an increase in standards for recruits, so that the military was no longer an alternative for dropouts, especially for males. This may partially account for the shift from approximately one-half million more female than male dropouts in 1968-1970 to about equal numbers of males and females among dropouts in 1977-1979 to 100-350 thousand more male dropouts since 1980.

Over the period from 1968 to 1986 as a whole, the rates for black females were significantly lower than those for black males. White males and females exhibited the same pattern as the total population, with rates for females being higher than for males in the first part of the period and lower since the late 1970s. In 1988, the status dropout rate for white males (13.5 percent) was significantly higher than for white females (11.9 percent). The rates for males and females did not differ for blacks and Hispanics in that year (Table A6).

There are significant differences between the sexes and racial/ethnic groups in enrollment/completion patterns by age (Tables 6 and B2). Males and blacks tend to take longer to complete high school than females and whites. Higher proportions of males and blacks were still enrolled in grade 12 or below at ages 18 and 19. As a result, for the age group 18 to 19, the completion rates (that is, the percent who have completed high school) were lower for males and blacks than for females and whites respectively. For 20- to 21-year-olds, the differences in completion rates were not significant as few people were still enrolled below college.

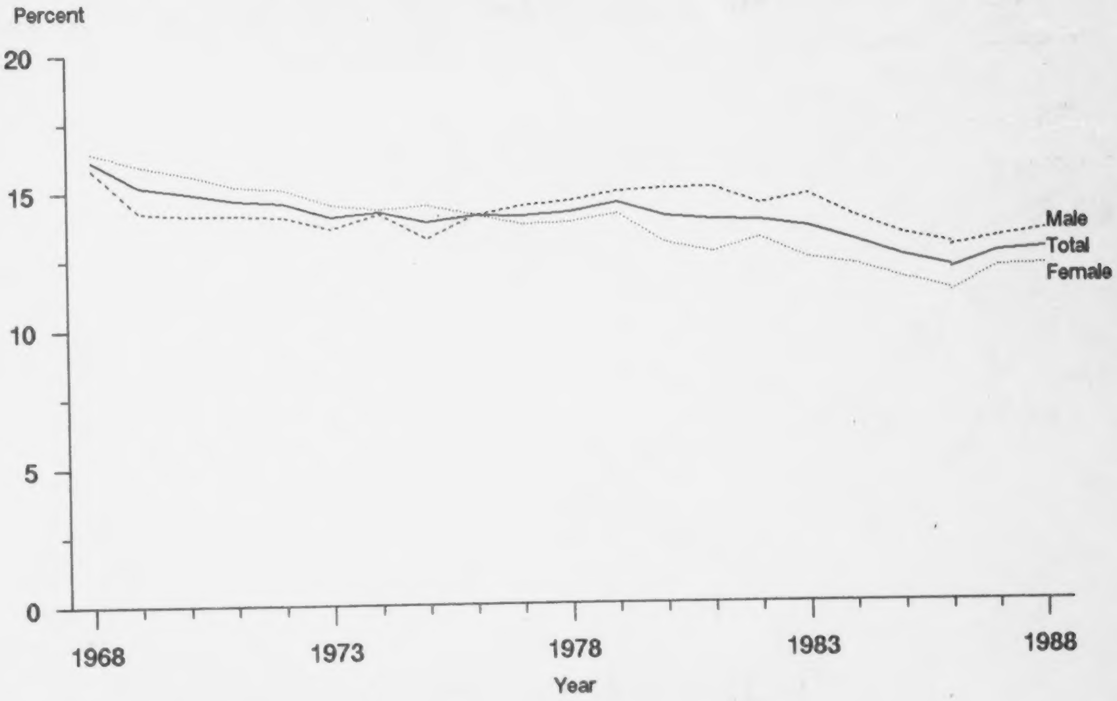
Figure 4. Number of status dropouts, ages 16-24, by race/ethnicity: October 1968 to 1988



Note: Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment– Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Figure 5. Status dropout rate, ages 16-24, by sex: October 1968 to 1988



Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment–Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table 6. High school completion status by age by race/ethnicity and sex: October 1988

Age	Total	Race/ethnicity			Sex	
		White	Black	Hispanic*	Male	Female
		Percent enrolled in high school or below				
18-19	13.9	11.7	23.7	16.4	18.4	9.4
20-21	.6	.7	.3	2.0	.9	.4
		Percent completed high school				
18-19	71.6	74.0	58.4	52.4	65.9	77.1
20-21	84.9	85.2	81.5	54.9	82.8	86.7
		Percent high school dropouts				
18-19	14.6	14.3	17.9	31.2	15.6	13.5
20-21	14.6	14.2	18.2	43.2	16.3	13.0

* Hispanics may be of any race.
Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

Region and metropolitan location. While for the nation as a whole, blacks ages 16 to 24 were more likely than whites of the same age to be status dropouts, the patterns were somewhat different when place of residence is taken into account. Comparing blacks and whites who live in similar types of locations may have the effect of comparing more like individuals with one another than when all blacks are compared with all whites regardless of where they live. For those living in central cities and in suburban locations, blacks and whites did not differ in their status dropout rates and for both blacks and whites, dropout rates were much higher in the cities than in the suburbs (Table 7).

One explanation for the higher overall dropout rates for blacks is that a majority of blacks (58.2 percent) lived in central cities where dropout rates were high, whereas about half the whites (50.3 percent) lived in the suburbs where the rates were much lower. Another is relatively high dropout rates for blacks living in nonmetropolitan areas. These rates were as high as those for blacks living in central cities. Slightly lower proportions of blacks (16.5 percent) than whites (21.4 percent) lived in nonmetropolitan areas. Status dropout rates were high for Hispanics wherever they lived.

Table 7. Status dropout rate, ages 16-24, by region and metropolitan status by race/ethnicity: October 1988

Region and metropolitan status	Total	Race/ethnicity		
		White	Black	Hispanic[*]
	Percent			
Total	12.86	12.66	14.87	35.78
Metropolitan status				
Central city	16.11	16.14	16.76	37.12
Suburban	10.47	10.75	9.13	34.74
Nonmetropolitan	13.04	12.52	17.01	30.43
Region				
Northeast	10.63	9.62	16.94	37.43
Midwest	9.27	8.71	14.20	28.19
South	14.99	14.82	15.82	28.59
West	16.03	17.62	7.20	41.58

[*] Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

At the national level, status dropout rates were higher for blacks than for whites. This was also the case within the Northeast and Midwest regions (Table 7). In the South, rates for blacks and whites did not differ significantly. In the West, the status dropout rate for whites was more than double that for blacks. This is because the "white" population in the West includes a high proportion of Hispanics, whose dropout rates were very high in every region.

In fact, the racial/ethnic composition of the dropout population in the West differs considerably from the rest of the country. Whereas nationally, Hispanics accounted for 28 percent of the dropouts in 1988, in the West they were 58 percent of the dropouts. When the Hispanics are separated from the rest of the white population in the West, the dropout rates for the remaining whites are much lower (9.1 percent). The dropout rates for white, nonHispanics and black, nonHispanics (6.7 percent) in the West did not differ significantly.

Amount of education completed by dropouts. About 50 percent of dropouts ages 16-24 had completed 10 or 11 years of schooling, dropping out in the last two years of high school (Table 8). On the other hand, approximately 12 percent had completed six years of elementary school at most. These patterns did not vary much among the regions with one notable exception. While no more than one out of every 12 dropouts had completed 6 years of school or less in the other three regions, one out of every four dropouts in the West had completed so little schooling. Hispanic dropouts are far more likely than nonHispanic dropouts to have completed six years of schooling or less. Hispanics constitute a much higher proportion of dropouts in the West than in any other region, and this is the reason for the high proportion of dropouts with six or less years of school completed in that region.

Table 8. Highest grade completed by status dropouts, ages 16-24, by region and ethnicity: 1988

Region and ethnicity	Highest grade completed					
	6 or less	7	8	9	10	11
	Percent					
Total	12.4	3.8	12.7	19.5	25.1	26.5
Region						
Northeast	8.5	3.4	12.5	21.6	28.1	26.0
Midwest	6.0	1.8	12.8	16.0	28.4	35.0
South	7.6	6.0	14.6	24.2	26.0	21.5
West	27.0	2.2	9.6	13.5	19.3	28.5
Ethnicity						
Hispanic	31.4	4.8	14.3	16.1	17.7	15.8
NonHispanic	5.1	3.5	12.0	20.9	28.0	30.6

Note: Rows may not sum to 100 percent due to rounding.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

The current location of status dropouts does not necessarily represent where those individuals lived at the time they dropped out of school. They may have moved since they dropped out – within the same state, between states in the same region, between regions, or even from one country from another. For example, the high percentage of Hispanic dropouts having no more than an elementary school education may reflect a relatively high proportion of non-native-born individuals. However, regardless of where they lived when they last attended school, the current residence of status dropouts reveals where there are education deficits among the young adult population.

COHORT RATES

The richest and most comprehensive national source of data currently available to examine issues related to high school dropouts is the High School and Beyond (HS&B) survey conducted by NCES. This longitudinal survey began in spring 1980 with cohorts of seniors and sophomores. Approximately 30,000 sophomores participated in the base year survey, and subsamples of this cohort were re-surveyed in 1982 (first follow-up), 1984 (second follow-up), and 1986 (third follow-up). High school transcripts were obtained in 1982 for over half the sophomore cohort. Third follow-up data have been used throughout this report unless otherwise noted. Approximately 13,400 individuals from the sophomore cohort participated in the third follow-up.

Missing from the cohort is anyone who dropped out prior to spring of their sophomore year. Thus, the overall cohort dropout rate is probably lower than it would be if a younger cohort were used. This may be particularly important for Hispanics, given that CPS data show Hispanic dropouts tend to have completed less schooling than other dropouts. NCES' new longitudinal study, NELS:88, begins with an eighth grade cohort.

The dropout rates in this report using third follow-up data vary somewhat from those cited in earlier reports using first or second follow-up data. (See Appendix D for a discussion of why several different dropout rates are possible based on the HS&B sophomore cohort.) In this report, whether a person was classified as a dropout or not was based on their response to an item on the third follow-up questionnaire about high school completion.[10] If an individual responded that s\he had graduated with their class or earlier,

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[10] The questionnaire item from the third follow-up is:

With regard to your high school education, please indicate which of the following applies to you. (CIRCLE ONE)
1. Graduated with class or earlier
2. Left high school but returned to earn a regular diploma
3. Left high school but since earned an equivalent certificate
   (such as GED)
4. Currently working toward a regular high school diploma
5. Currently working toward an equivalent of high school diploma
   (such as GED)
6. Did not graduate or earn an equivalent certificate

s\he was classified as a nondropout. Everyone else was classified as a dropout. For the few people who did not provide a valid response to this item, other items were utilized to determine whether they were a dropout. Using this definition of a dropout for those in the sophomore cohort participating in the third follow-up, 17.3 percent of 1980 sophomores were identified as high school dropouts.[11]

HS&B contains a great deal of background information about individuals as well as information about school experiences. Tables 9, 10, and 11 present cohort dropout rates for a number of variables, which have been shown to be related to differences in dropout rates in previous reports from HS&B.[12]

Background characteristics. Several socio-demographic characteristics were related to the likelihood of dropping out among 1980 sophomores (Table 9). Males were more likely to drop out than were females, a pattern that generally appeared for both event and status rates in the past ten years. Also similar to the rates derived from CPS data, rates for blacks and Hispanics were higher than for whites, with Hispanic students more likely to drop out than black students.[13] Data on students from two additional minority groups are available in HS&B. Asian students were the least likely to drop out, 8.2 percent, which was less than half the rate for the cohort as a whole. American Indian/Alaskan Natives dropped out at more than double the rate for the group as a whole, 35.5 percent.

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[11] This definition was developed by Teresita Chan Kopka and was first used in T. Kopka, "Employment, Earnings, and Job Satisfaction of 1980 High School Sophomore Dropouts," Education Data Tabulation, U.S. Department of Education, National Center for Education Statistics: January 1989.

[12] S. Peng, "High School Dropouts: Descriptive Information from High School and Beyond," NCES 83-221b, Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, November 1983; Aaron Pallas, "School Dropouts in the United States," in The Condition of Education, 1986 edition, Washington, D.C.: U.S. Government Printing Office, 1986; S. Barro and A. Kolstad, Who Drops Out of High School? Findings from High School and Beyond, CS 87-397c, Washington, D.C: U.S. Department of Education, National Center for Education Statistics, May 1987.

[13] The racial/ethnic categories reported using HS&B data are mutually exclusive. Whites are white, not of Hispanic origin and blacks are black, not of Hispanic origin.

Table 9. Cohort dropout rate and proportion of total dropouts for 1980 sophomores by socio-demographic and geographic characteristics

Characteristic	Cohort dropout rate (percent)[1]	Proportion of total dropouts[2]
Total	17.3	100.0
Sex		
Male	19.3	55.5
Female	15.2	44.5
Race/ethnicity		
White	14.8	65.7
Black	22.2	17.4
Hispanic	27.9	13.1
Asian	8.2	.6
Am. Indian/Alaskan Native	35.5	3.1
Home language background		
NonEnglish only	20.1	1.9
NonEnglish predominant	20.8	3.5
English predominant	12.7	7.9
English only	14.5	86.7
Socioeconomic status		
Highest quartile	6.6	8.4
Second quartile	10.2	15.3
Third quartile	14.3	20.3
Lowest quartile	22.1	28.7
Unknown	78.0	27.5
Family structure		
Both parents present	12.3	68.2
One parent present	21.6	26.7
Other	32.6	5.1
Region		
Northeast	13.7	17.6
Midwest	14.8	24.1
South	19.5	36.8
West	21.7	21.5
Metropolitan status		
Urban	24.5	30.7
Suburban	15.1	41.7
Rural	15.6	27.6

[1] Rates differ from those previously published. See Appendix D.

[2] Proportion of dropouts with nonmissing data except for SES.

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Students who in the base year had a variety of disadvantages were more likely to drop out than their more advantaged peers. Those whose home language background was only or predominantly nonEnglish dropped out more than those whose home language background was English only. Students from single-parent families had higher dropout rates than those where two parents were present in the base year. Socioeconomic status (SES) was also associated with dropout rates. The higher the base year family SES, the less likely a student was to drop out of high school.

Dropout rates in the HS&B 1980 sophomore cohort varied by geographic location in patterns similar to those found in the CPS data. Dropout rates were lower for students attending high school in the Northeast and Midwest in 1980 than for students in the South and West. Dropout rates were 50 percent higher for students in urban high schools than in suburban or rural high schools. Nearly one out of four students in urban high schools became dropouts.

Many of the groups with the highest dropout rates represented relatively small proportions of the total 1980 sophomore cohort. Therefore, simply examining dropout rates for various groups can give a misleading picture of the characteristics of dropouts as a whole. Thus, while dropout rates were higher for most minority groups (Figure 6a), those from nonEnglish language home backgrounds, and those from single-parent families, the majority of dropouts did not have these characteristics (Table 9). Of all dropouts, 66 percent were white (Figure 6b) and 68 percent came from two-parent families.

Student behaviors. Certain student behaviors are indicators of the likelihood of dropping out. These behaviors are not necessarily causes of dropping out -- other factors may be related to both these behaviors and dropping out, but there are strong associations between the behaviors and dropping out.

By the time of the first follow-up (spring 1982), relatively few members of the sophomore cohort, less than five percent, were married or had children. However, among those who were, the dropout rates were extraordinarily high (Table 10). So high, that such students accounted for 20 percent of all dropouts. These percentages may actually be somewhat understated, since they do not take into account pregnancies as of the first follow-up or pregnancies and marriages after the first follow-up, but prior to the expected graduation date for the cohort (May/June 1982).

Those who later dropped out of high school were more likely than nondropouts to have had a history of difficulty with school authorities or the law as of the time of the base year survey (Table 10). One-fourth to one-third of students who reported they had been in serious trouble with the law, had been suspended or on probation from school, or in the last year had disciplinary problems in school later became dropouts. However, most students with such past difficulties managed to remain in school.

Table 10. Cohort dropout rate and proportion of total dropouts for 1980 sophomores by family formation in 1982, and antisocial behavior patterns in 1980

	Cohort dropout rate (percent)[1]	Proportion of total dropouts[2]
Total	17.3	100.0
Family formation, 1982		
Married, with children	80.0	6.8
Married, no children	69.3	6.8
Unmarried, with children	45.5	6.4
Unmarried, no children	13.8	80.0
Disciplinary problems in school during last year		
Yes	27.9	--
No	10.2	--
Suspended or on probation from school		
Yes	32.6	--
No	11.0	--
Serious trouble with the law		
Yes	33.4	--
No	12.6	--

-- Data not shown because more than 30 percent of the weighted sample of dropouts were missing data on this variable.

[1] Rates differ from those previously published. See Appendix D.

[2] Proportion of dropouts with nonmissing data for each variable.

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

School experiences. HS&B gathered a variety of information about the students' schools and their experiences within those schools. This represents one of the strengths of this database as compared to CPS, which contains no information related to the schools dropouts and nondropouts have attended. Table 11 displays dropout rates for a variety of school-related variables.

Figure 6a. Dropout rate for 1980 sophomore cohort by race/ethnicity

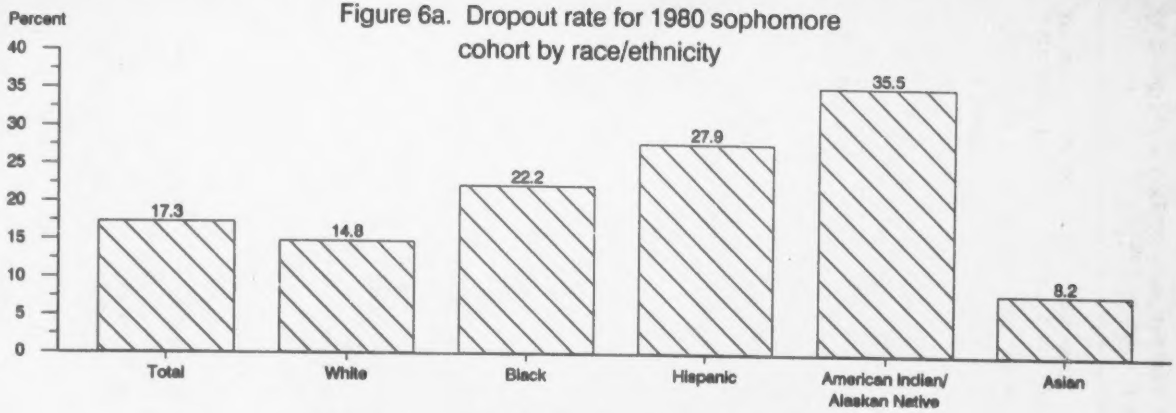
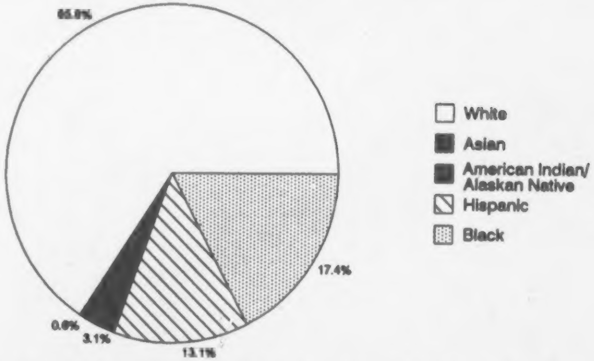


Figure 6b. Composition of dropouts for 1980 sophomore cohort by race/ethnicity



Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Survey, sophomore cohort, unpublished tabulations.

The type of school a student attended was associated with the likelihood of dropping out. Dropout rates were lowest in Catholic schools, about five percent. The rates were somewhat higher in other types of private schools, 11 percent, but still considerably below the 18 percent rate in public schools.

The student's school program was also related to dropout rates. Only six percent of those who in the base year survey identified themselves as being in an academic program became dropouts. Students in vocational or general programs dropped out at much higher rates, 20 and 18 percent respectively.

Several measures indicate a strong relationship between a student's success in school as of the tenth grade and the probability that s/he would become a dropout (Table 11). This was evident in terms of grades, whether a student was overage for grade, or had ever repeated a grade. The higher the student's self-reported grades, the less likely s/he was to drop out. Less than two percent of A students dropped out, whereas more than half of those getting D's and F's did. The dropout rate for those who had repeated a grade was more than double the rate for those who had not. In general, the older a student was at the beginning of 9th grade, the greater the likelihood of dropping out sometime before graduation.

A powerful predictor of whether a student would eventually drop out was the attendance record during the first four months of tenth grade (Table 11). The more days a student had missed for reasons other than illness prior to Christmas during the 1979-80 school year, the greater the chances s/he would become a dropout. Those who missed 0 to 2 days had dropout rates under ten percent, while those missing more than ten days had dropout rates of 45 percent or more. Sophomores who missed a lot of school for reasons other than being sick may already have been well on their way to dropping out. For many students, dropping out is not so much an event that occurs at a specific point in time, but a process representing a gradual disengagement from school over time. A student may begin cutting classes, then skipping a whole day or two at a time, then longer periods, until finally there comes a time when s/he just never goes back. Other students may attend sporadically for awhile and then begin attending regularly again. Students missing more than 20 days of school for reasons other than sickness by Christmas of their sophomore year had already indicated rather limited commitment to school at that point in their lives.

Table 11. Cohort dropout rate and proportion of total dropouts for 1980 sophomores by 1980 school experiences

	Cohort dropout rate (percent)[1]	Proportion of total dropouts[2]
Total	17.3	100.0
School type		
Public	18.3	96.2
Catholic	4.9	1.7
Other private	10.9	2.1
School program		
Academic	5.8	13.6
Vocational	20.4	30.3
General	17.5	56.1
Grades		
Mostly A's	1.5	1.1
A's and B's	5.0	6.0
Mostly B's	6.6	8.3
B's and C's	13.6	24.7
Mostly C's	20.8	20.2
C's and D's	34.6	23.0
Mostly D's or less	56.5	16.7
Held back or repeated a grade		
Yes	31.2	29.1
No	14.1	70.9
Age at beginning of 9th grade		
15 1/2 or older	52.1	18.6
15 or 15 1/4	31.0	14.3
14 1/2 or 14 3/4	16.7	29.8
14 or 14 1/4	12.1	27.7
Under 14	10.9	9.7
Number of days missed school for reasons other than illness between Sept. and Christmas, 1979		
None	7.5	18.2
1-2	9.2	19.5
3-4	15.8	18.9
5-10	28.5	22.0
11-15	45.1	9.6
16-20	47.2	4.7
21 or more	68.9	7.2

[1] Rates differ from those previously published. See Appendix D.

[2] Proportion of dropouts with nonmissing data for each variable.

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

While all the variables listed in Table 11 are related to the probability of a student's dropping out, it is important to note that the vast majority of students in every category, except a few rarely occurring characteristics, did not drop out, and that the majority of dropouts did not come from categories with high probabilities of dropping out. For example, only 17 percent of dropouts were D students. Furthermore, nearly half the D students persevered and did not become dropouts. Sixty percent of dropouts reported they received mostly C's or better. The variables in Tables 9, 10, and 11 are predictors of who is likely to drop out, but not very discriminating ones. Most people at great risk of dropping out do not drop out and the majority of dropouts are people who would not have been labeled as being at risk, at least in terms of single characteristics.

For the cohort as a whole, males were about four percent more likely to drop out of high school than females. Within racial/ethnic groups, the differences between males and females were significantly different only for whites (Table 12). While the differences between the sexes were considerable for both blacks and American Indians/Alaskan Natives, the margin of error for these estimates was so large that these differences were not statistically significant.

Table 12. Cohort dropout rate[*] for 1980 sophomores by race/ethnicity by sex

Race/ethnicity	Total	Sex	
		Male	Female
Total	17.3	19.3	15.2
White	14.8	16.6	13.1
Black	22.2	25.8	18.9
Hispanic	27.9	28.8	27.0
Asian	8.2	9.5	6.8
American Indian/ Alaskan Native	35.5	27.0	47.0

[*] Rates differ from those previously published. See Appendix D.

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Is race still correlated with cohort dropout rates when other background characteristics are taken into account? Many of the variables in Tables 9, 10, and 11 are highly related to one another. While these variables are correlated with the likelihood of dropping out when taken one at a time, do they remain so when other factors are taken into account? In general, the answer is yes.

A great many variables falling into four broad categories -- personal and family background characteristics of students, locational and economic factors, educational and school factors, and student behaviors and choices -- were included in a multivariate analysis of dropout rates for the public school portion of the HS&B sophomore cohort based on the first two follow-ups and transcript data.[14] (Of the variables in Tables 9, 10, and 11, only two -- home language background and absences in fall, 1979 were not included in that analysis.)

Most variables in Tables 9, 10, and 11 remained significantly related to dropout rates (and in the same direction) when all other variables were taken into account. A major exception was differences among racial/ethnic groups when family background (parents' occupation and education, family income, family structure, number of siblings, mother working, religious affiliation, and religiosity) was taken into account.

Blacks had lower rates of dropping out than whites when all these factors were taken into account, and the differences between whites and Hispanics were greatly reduced. This suggests that when blacks are compared to whites with similar family backgrounds, the dropout rates among blacks may be lower than those for whites.

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[14] Barro and Kolstad, op. cit.

RETURNING TO SCHOOL

A student who drops out of high school at some point prior to graduation may later complete high school. In fact, many dropouts do later complete high school, either by earning a regular high school diploma or an alternative equivalency credential such as a GED certificate. Figure 7 illustrates the alternative routes a student may ultimately follow through high school. Dropouts can be subdivided into several categories, depending on their educational career after dropping out of high school. "Stayouts" never return to any educational setting, which would lead to a high school diploma or any equivalency credential. Among the "returnees" are the "completers," who have earned some sort of credential or diploma, and the "dropins" who have not. "Dropins" consist of former students who have returned and then left again before completing.[15]

Frequency of later completion. HS&B is an excellent data source for examining the phenomenon of dropouts returning to school, because of its longitudinal design. As of the third follow-up (spring 1986), not quite four years after their expected graduation date, a large proportion of the dropouts in the 1980 sophomore cohort had completed high school (Table 13). About 46 percent -- eight percent out of the 17.3 percent of dropouts -- had earned a diploma or an equivalency certificate and another 12 percent of the dropouts (two percent of the cohort) were pursuing that goal at the time of the third follow-up.[16]

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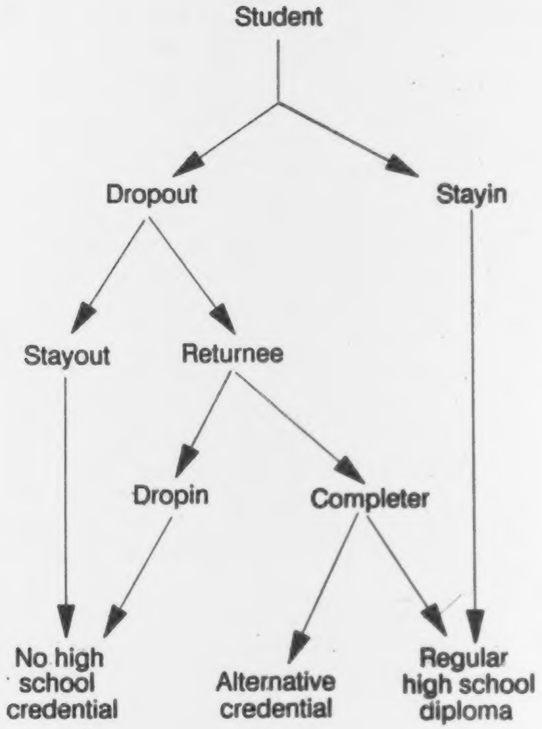
[15] Figure 7 depicts a student's final status with regard to high school completion. At any specific point in time, an individual may still be in progress. Therefore, a person's status may change over time, for example, going from a stayout to a returnee to a returnee-completer. There is an intermediate stage for returnees, which is not reflected in the figure, those currently enrolled but not yet completed. The ultimate completion or noncompletion status for such individuals is not yet known.

[16] While the CPS data show some evidence of the returnee phenomenon (see Table B3), the cross-sectional nature of the data mean that it is not possible to calculate a completion rate for dropouts based on CPS data.

Figure 7. Alternative educational paths through high school


Student
Dropout
Stayin
Stayout
Returnee
Dropin
Completer
No high school credential
Alternative credential
Regular high school diploma

Source: U.S. Department of Education, National Center for Education Statistics, The Condition of Education, 1986 edition.

Table 13. Completion status of 1980 sophomores: 1982, 1984, and 1986

Month and year	Stayins	Dropouts		
		Returned and completed	Currently in progress	Not completed and not in progress
		Percent		
June 1982	82.7	--	17.3	
June 1984	82.7	5.2	2.3	9.8
Third follow-up, 1986	82.7	8.0	2.1	7.1

-- Not applicable.
Note: Rows may not sum to 100 percent due to rounding.
Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

About one-third of [illegible] returnee-completers had earned a high school diploma. The other two-thirds had earned some type of equivalency certificate. How soon a dropout completed high school was related to the manner of completion, i.e., diploma or equivalency certificate (Table 14). For those finishing within one year of their expected graduation date, about 45 percent earned high school diplomas. For those delaying longer, the proportion fell to about 25 percent.

The current evidence is unclear about what difference, if any, it makes which route a person follows to complete high school -- earning a regular diploma or obtaining a GED. Some research suggests that GED recipients do not do as well in college as those with high school diplomas.[17] The military services have found that those with an alternative credential are less likely to complete their tour of duty than those with a diploma.[18] On the other hand, findings from HS&B suggest that there are relatively few, if any, differences in employment and earnings patterns between dropouts who completed by the two routes.[19] Literacy skills of GED recipients were generally between those of dropouts who had not completed and regular high school graduates.[20]

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[17] A. Tugend, "College Study: G.E.D. Students Failing," Education Week, May 7, 1986, pp. 1, 10.

[18] J. Laurence, "Military Enlistment Policy and Education Credentials: Evaluation and Improvement," Final Report 87-33, HumRRO FR-PRD-87-33, Alexandria, VA: Human Resource Research Organization, 1987.

Table 14. Proportion of 1980 sophomores completing high school after normal time for their class by method of completion and year

Completion status and year	Method of completing Regular diploma	Equivalency certificate
	Percent	
Completing:		
Total by 1986	31.2	68.8
July 1982 - June 1983	45.7	54.3
July 1983 - June 1984	26.1	73.9
July 1984 - Third follow-up, 1986	23.3	76.7
Working toward completion:		
At the time of third follow-up, 1986	21.5	78.5

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Who returns and completes? Many of the same variables associated with variations in dropout rates were also predictors of the likelihood of whether a dropout would complete high school by the time of the third follow-up. In general, characteristics associated with lower dropout rates were also associated with higher completion rates for dropouts (Tables 15 and 16). This was true for race/ethnicity, SES, metropolitan status, school program type, grades, repeating a grade, and age at the beginning of ninth grade. However, in many instances the absolute differences in the proportion not completing high school between categories narrowed between 1982 and 1986.

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[19] Kopka, op. cit.

[20] A. Pendleton, Young Adult Literacy and Schooling, CS 88-604, Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, October, 1988.

SES is a good example of this pattern (Table 15). About two-fifths of the dropouts from the lowest SES quartile had completed high school by 1986, whereas two-thirds of those from the highest SES quartile had done so. However, since the dropout rate was so much greater for the lowest SES quartile, the percent of the 1980 sophomore cohort who were returnee-completers was greater for the lowest quartile, about nine percent, than for the highest quartile, where four percent were returnee-completers. As a result, the absolute difference of about 15.5 percent between the two quartiles in dropout rates in 1982 had become a 10.5 percent difference in the proportion not completing by 1986.

Rates of returning and completing varied considerably among racial/ethnic groups (Table 15). Asian dropouts were more likely to return and complete high school than anyone else and Hispanics and American Indians/Alaskan natives were the least likely to complete. About three-quarters of the Asian dropouts had finished by 1986. On the other hand, about one-third of Hispanic and one-fourth of American Indian/Alaskan Native dropouts had done so. Black and white dropouts did not differ in their completion rates; it was almost 50 percent for both groups.

Some characteristics of the base year schools or school experiences were related to the likelihood that a dropout would complete by the third follow-up (Table 16). Without further analysis, it is unclear whether these relationships are due to the impact of these school-related variables themselves or due to relationships of both the school variables and the likelihood of completing with other variables, such as family and individual background characteristics. Dropouts who identified themselves as being in an academic program in the base year were more likely to complete than those in general or vocational/technical programs. Dropouts whose previous school experiences were more positive were more likely to return. Those with grades of B or better completed at higher rates than those with Cs and Ds or worse. Students who had never repeated a grade and were younger when entering 9th grade completed at higher rates than those who had repeated at least one grade or had been among the oldest students entering 9th grade.

Table 15. Change in dropout status of 1980 sophomores between 1982 and 1986 by socio-demographic and geographic characteristics

	Percent of cohort			Percent of dropouts completed 1982-1986
	Dropouts 1982	Not completed by 1986	Completed 1982-1986	
Total	17.3	9.2	8.0	46.5
Sex				
Male	19.3	10.1	9.2	47.5
Female	15.2	8.4	6.9	45.2
Race/ethnicity				
White	14.8	7.6	7.2	48.4
Black	22.2	11.4	10.8	48.5
Hispanic	27.9	18.0	9.9	35.5
Asian	8.2	2.0	6.2	75.8
American Indian/ Alaskan Native	35.5	27.1	8.4	23.7
Home language background				
NonEnglish only	20.1	10.0	10.0	50.0
NonEnglish predominant	20.8	11.5	9.3	44.8
English predominant	12.7	6.0	6.7	52.6
English only	14.5	7.4	7.1	48.7
Socioeconomic status				
Highest quartile	6.6	2.4	4.2	64.2
Second quartile	10.2	4.0	6.2	60.8
Third quartile	14.3	7.3	6.9	48.6
Lowest quartile	22.1	13.0	9.2	41.5
Unknown	78.0	48.7	29.3	37.5
Region				
Northeast	13.7	6.2	7.5	55.0
Midwest	14.8	8.8	6.0	40.8
South	19.5	10.4	9.1	46.6
West	21.7	11.7	9.9	45.8
Metropolitan status				
Urban	24.5	13.6	10.9	44.5
Suburban	15.1	7.1	8.0	53.0
Rural	15.6	9.5	6.1	39.0

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table 16. Change in dropout status of 1980 sophomores between 1982 and 1986 by 1980 school experience

	Percent of cohort			Percent of dropouts completed 1982-1986
	Dropouts 1982	Not completed by 1986	Completed 1982-1986	
Total	17.3	9.2	8.0	46.5
School type				
Public	18.3	9.9	8.4	45.7
Catholic	4.9	1.6	3.3	67.3
Other private	10.9	3.6	7.3	--
School program				
Academic	5.8	1.9	3.9	48.0
Vocational	20.4	11.6	8.8	66.9
General	17.5	9.1	8.4	43.0
Grades				
Mostly A's	1.5	1.4	1.0	62.9
A's and B's	5.0	1.5	3.5	71.1
Mostly B's	6.6	2.6	4.0	60.8
B's and C's	13.6	6.3	7.3	53.4
Mostly C's	20.8	10.6	10.2	49.1
C's and D's	34.6	20.1	14.5	41.8
Mostly D's or less	56.5	35.2	21.3	37.7
Held back or repeated a grade				
Yes	31.2	20.2	11.0	35.2
No	14.1	7.0	7.0	50.0
Age at beginning of 9th grade				
15 1/2 or older	52.1	33.9	18.3	35.1
15 or 15 1/4	31.0	18.9	12.1	39.0
14 1/2 or 14 3/4	16.7	9.0	7.7	46.4
14 or 14 1/4	12.1	5.4	6.7	55.4
Under 14	10.9	4.9	6.0	54.8
Number of days missed school for reasons other than illness between Sept. and Christmas, 1979				
None	7.5	3.2	4.3	57.6
1-2	9.2	4.6	4.6	50.4
3-4	15.8	8.2	7.5	47.8
5-10	28.5	15.0	13.5	47.3
11-15	45.1	23.6	21.5	47.7
16-20	47.2	28.6	18.6	39.4
21 or more	68.7	42.9	26.0	37.7

-- Fewer than 30 cases.

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

When dropping out occurs. The grade in which a student drops out is also related to how and if s/he completes high school within the first few years after scheduled high school graduation. An analysis of HS&B third follow-up data by Kolstad and Kaufman found that those dropping out in tenth grade were least likely to have completed high school by 1986 and those dropping out in twelfth grade were most likely to have done so.[21] They also found that among the dropouts who later completed high school, the earlier the dropout had left high school, the longer s/he tended to take to complete. Finally, the earlier a dropout left high school, the more likely s/he was to complete high school by means of an equivalency certificate such as a GED rather than by earning a regular high school diploma.

These findings suggest that the 46 percent rate found for dropouts in the sophomore cohort is probably an optimistic estimate of the proportion of dropouts who complete high school within a few years of their class' graduation. Since those who left in tenth grade were less likely to complete than later leavers, it seems likely that those who drop out prior to spring of tenth grade complete at lower rates.

Differentiating among groups of dropouts. The most extensive analysis of dropouts returning to school has been conducted by Phillip Kaufman, also using data from HS&B (second follow-up).[22] Kaufman's intent was to identify factors that would differentiate among three groups of dropouts -- returnee-completers, dropouts enrolled at the time of the second follow-up, and dropouts not in school at the time of the second follow-up.[23]

On a wide variety of characteristics, Kaufman found the three groups could be rank ordered -- returnee-completers, those enrolled, and those not enrolled. Many of the characteristics that distinguished the three dropout groups from one another were the same variables that differentiate dropouts from nondropouts. Thus, dropouts do not appear to be an undifferentiated group, but may form a continuum; those most likely to return and complete high school, shortly after dropping out, most resembled nondropouts. Similarly, the group making the least progress toward completing high school least resembled stayins in their characteristics.

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[21] A. Kolstad and P. Kaufman, "Dropouts who Complete High School with a Diploma or GED," paper prepared for presentation at the annual meetings of the American Education Research Association, March 1989.

[22] P. Kaufman, High School Dropouts Who Return to School, Ph.D. dissertation, Claremont Graduate School, 1988.

[23] While Kaufman's categories of dropout/completion status are the same as those used in this report, individuals were classified on the basis of the data available at the time he conducted his analysis, i.e., second follow-up data.

Kaufman used a multivariate model with many classes of variables to try to differentiate the three groups of dropouts (Figure 8). All together, the variables in his model could explain approximately 30 percent of the variation in school completion outcomes among the three dropout groups.[34] Figure 9 portrays how much of the variation was explained sequentially by each group of variables. The first two groups of variables, family and individual background, explained about six and seven percent of the variation respectively. The other large contributor was post-dropout attitudes, which explained almost eight percent of the variation.

Four variables -- SES, student ability, and educational expectations in 1980 and in 1982 -- accounted for about sixty percent of the model's ability to differentiate the three dropout groups. Dropouts from higher SES families, of higher ability (as measured by the tests administered as part of HS&B), and with higher expectations as to how much education they would complete (both before and after dropping out) were more likely to return. Once SES and family composition were taken into account, whites and Hispanics did not differ in their return rates, but blacks continued to return at lower rates than whites. Having children appeared to lessen the likelihood that a dropout would return to school, a factor which affected more women than men, since more female dropouts had children.

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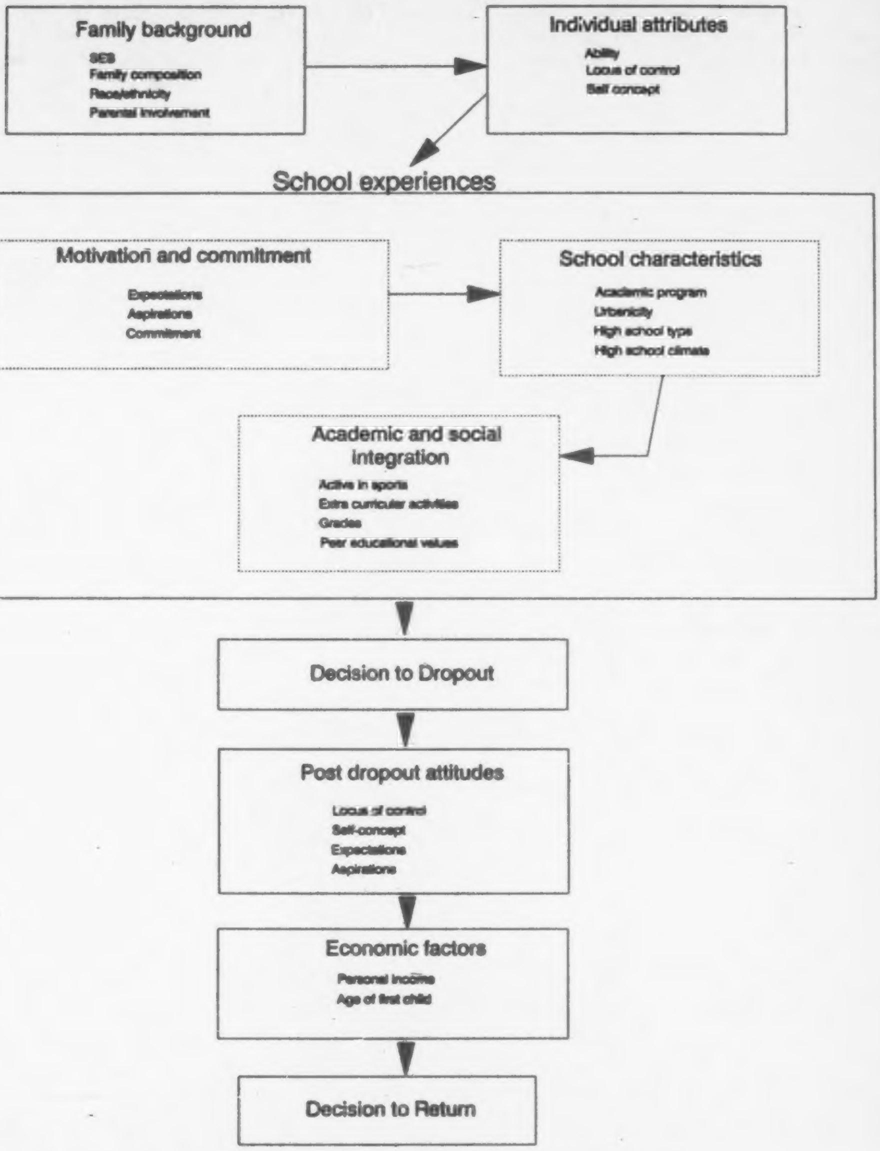
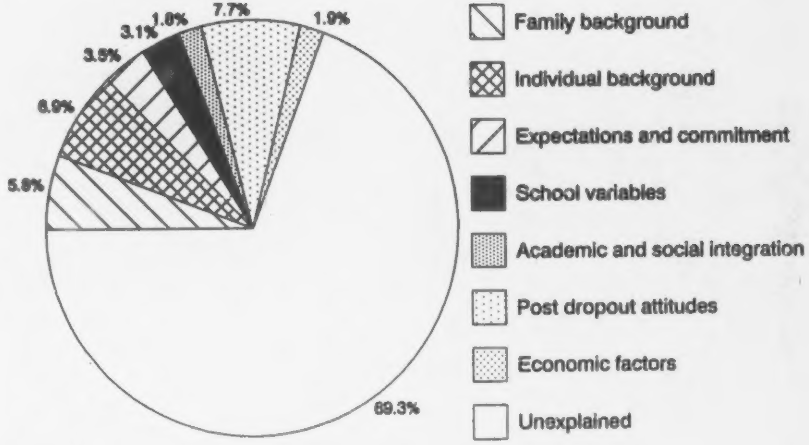
[34] Kaufman incorporated about 25 variables in his analysis and identified a number of factors which discriminated among the three dropout groups. On the other hand, these factors could only explain 30 percent of the variation among the groups and there was a lot of overlap in the characteristics of the three groups. This pattern is similar to the one found in the last chapter when trying to identify factors differentiating dropouts from nondropouts -- factors correlated with dropout behavior do not discriminate very well between the various categories of completion status.

Figure 8. Model of high school completion


Family background
SES
Family composition
Race/ethnicity
Parental involvement
Individual attributes
Ability
Locus of control
Self concept
School experiences
Motivation and commitment
Expectations
Aspirations
Commitment
School characteristics
Academic program
Urbanicity
High school type
High school climate
Academic and social integration
Active in sports
Extra curricular activities
Grades
Peer educational values
Decision to Dropout
Post dropout attitudes
Locus of control
Self-concept
Expectations
Aspirations
Economic factors
Personal income
Age of first child
Decision to Return

Source: P. Kaufman, High School Dropouts Who Return to School, Ph.D. dissertation, Claremont Graduate School, 1988.

Figure 9. Relative importance of factors in separating dropout groups as a proportion of total variation in completion status



Source: P. Kaufman, High School Dropouts Who Return to School, Ph.D. dissertation, Claremont Graduate School, 1988.

SUMMARY AND CONCLUSION

This report attempts to answer two questions about dropouts in the United States. What is the extent of the dropout problem at the current time? and Who drops out before graduating from high school? In order to answer these questions, three types of dropout rates have been presented in this report -- event, status, and cohort rates. In addition, the extent to which dropouts return to school has also been examined. What do the data show?

Extent of the Problem

Rates. Three types of dropout rates were examined in this report.

1) The event dropout rate represents the share of students that leave school without completing high school during a single year. Over the past three years for which data are available (October 1985 through October 1988), the average event dropout rate has been 4.4 percent for students in grades 10-12. The number of event dropouts from grades 10-12 in the year between October 1987 and October 1988 was approximately 460,000.

2) The status dropout rate represents the proportion of individuals at any given point in time who are not enrolled in school and have not finished high school. In October 1988, 12.9 percent of 16- to 24-year-olds were status dropouts. About half of these 4.2 million dropouts had completed 10 or 11 years of schooling. Another third had completed eighth or ninth grade.

The status dropout rate is much higher than the event rate because it counts as dropouts all individuals who have not finished high school (and are not currently enrolled in school) regardless of when they last attended school. A person is counted as an event dropout only in the year s/he leaves school. Thus the status rate reflects the cumulative impact of dropout events from all grades over a number of years, net the effect of individuals returning to school.

3) Another way of examining the extent of the dropout problem is to look at what happens to a single group, or cohort, of students as they pass through school. Among the cohort of students who were sophomores in the spring of 1980, 17.3 percent had not graduated by June, 1982. However, by spring of 1986, 46 percent of these dropouts had obtained either a diploma or an equivalency credential. About one-third had earned a regular high school diploma, while the other two-thirds received a GED or other alternative credential.

Trend. Nationally, dropout rates have been declining: since the late 1960s for status rates and since the late 1970s for event rates. While there was a slight increase between 1986 and 1988, the status rate in 1988 was 20 percent lower than it had been twenty years ago -- 16.2 percent in 1968 and 12.9 percent in 1988. The event rate fell 28 percent between 1978 and 1987.

For both status and event dropout rates, the rates for blacks have declined considerably and the differences between dropout rates for whites and blacks have narrowed over the past two decades. Data on Hispanics are available beginning in 1972. Hispanic dropout rates -- event and status -- have shown no consistent trend since then, remaining high throughout the period.

Who Drops Out and Returns

Dropping out. A number of demographic, socioeconomic, and behavioral characteristics are associated with dropping out.

o Background demographic characteristics

The general patterns for common background variables measured for all three types of rates showed consistent patterns across the three rates. In each case, dropout rates for whites were lower than those for blacks, which in turn were lower than those for Hispanics. Nevertheless, because there are so many more whites than blacks or Hispanics in the population, the majority of dropouts were white. Dropout rates were consistently higher in cities than in suburbs and nonmetropolitan areas and lower in the Northeast than in the South and West. In recent years, there was a tendency for dropout rates to be higher for men than for women, but that pattern did not appear for every year or every racial/ethnic group.

o Other background, socioeconomic and behavioral factors

More data on these factors were available for examining the cohort rates. Asian students had the lowest dropout rate of any racial/ethnic group, while American Indian/Alaskan Natives had a very high rate. Students coming from less advantaged family backgrounds -- low SES, single-parent, nonEnglish language background -- had higher dropout rates than their more advantaged peers. Dropout rates for blacks were the same or lower than those for whites, when individual and family background characteristics were taken into account. A student's own family formation pattern was also related to dropping out. Those who had children or had married prior to the time they would normally graduate had very high dropout rates.

A student's previous success in school was correlated with the likelihood of dropping out. Those with low grades, who had repeated a grade, and who were overage for their grade were more likely to become dropouts than their more successful peers. Similarly, students who had been in trouble with the law or with school authorities were more likely to drop out. In addition, a student's attendance pattern during the first four months of tenth grade was associated with dropping out. Those who had missed many days of school for reasons other than illness were more likely to drop out than those who had missed few, if any, days.

A variety of factors and characteristics were associated with a greater likelihood of dropping out, and might be considered as putting a student "at-risk" of dropping out. However, most students with such "at-risk" characteristics did not drop out. Because of that and the fact that the "at-risk" categories accounted for relatively small proportions of the population, most dropouts were not "at-risk" individuals. For example, the majority of dropouts from the 1980 sophomore cohort came from two-parent families, had C averages or better, and were unmarried without any children in the spring of 1982.

Dropouts completing high school. Many of the same characteristics associated with the likelihood of dropping out were also correlated with completion rates in the first few years after dropping out. For example, Asian dropouts were more likely to earn a high school diploma or obtain an equivalency certificate (such as a GED) than any other racial/ethnic group, while American Indian/Alaskan Native dropouts were the least likely to complete. (White and black dropouts did not differ in their completion rates.) Dropouts with higher grades in high school and from high SES backgrounds tended to complete more than those with lower grades and from low SES family backgrounds.

Dropouts are not a homogeneous group in terms of their characteristics or their behavior. In many respects, dropouts who completed high school, either by earning a GED or a diploma, tended to resemble their peers who never left high school more than dropouts who had not completed high school by 1986.

How early a student in the 1980 sophomore cohort left high school was associated with return behavior in several ways. The lower the grade from which a student dropped out of high school, the less likely s/he was to have completed by spring, 1986. If a dropout had completed by 1986, when a student left was also related to the method of completion and the length of time needed to complete. The lower the grade when dropping out, the longer it took the former student to finish and the more likely s/he obtained a GED rather than a regular diploma.

Conclusion

In terms of the number of young people involved, the data reveal that the dropout problem is substantial. On the other hand, dropout rates have been falling for the past ten years. Furthermore, many dropouts complete high school in some manner within a few years after dropping out. However, two-thirds of these returnee-completers do so by obtaining an equivalency credential. At this point it is not clear whether the way a person completes high school -- regular diploma or GED -- makes a difference in terms of skills attained, further education pursued, or success in the labor market.

Dropout rates for some groups and in some locations are higher than in others. Generally, dropout rates are higher for minority groups, in cities, and in the South and West. In particular, dropout rates for young Hispanics are very high and have not declined in recent years, while overall rates and those for blacks have been declining. In addition, Hispanic dropouts tend to complete fewer years of schooling than other dropouts. Nationally, Hispanics accounted for about one-quarter of the status dropouts in 1988, and were a majority of such dropouts in the West.

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APPENDIX A

TIME SERIES AND STANDARD ERROR TABLES

Table A1. Average event dropout rate (three-year average) from grades 10-12, ages 14-24, by race/ethnicity: 1968 to 1987 (Figure 1)

Year[1]		Race/ethnicity		
	Total	White	Black	Hispanic[2]
		Percent		
1968	5.3	--	--	--
1969	5.4	--	--	--
1970	5.5	--	--	--
1971	5.8	--	--	--
1972	6.0	--	--	--
1973	6.4	--	--	10.2
1974	6.3	5.7	10.1	10.2
1975	6.1	5.7	9.2	9.2
1976	6.1	5.8	8.1	8.7
1977	6.3	6.0	8.7	9.1
1978	6.6	6.2	9.5	10.4
1979	6.5	6.0	9.4	11.5
1980	6.2	5.7	9.2	11.1
1981	5.8	5.3	8.6	10.5
1982	5.5	5.0	8.1	10.0
1983	5.2	5.0	6.8	10.1
1984	5.1	4.9	6.8	10.2
1985	5.0	4.8	6.3	10.9
1986[3]	4.8	4.5	6.8	9.2
1987[3]	4.8	4.6	6.7	9.5

-- Not available.

[1] The year represents the middle of the three years over which rates are averaged. Thus the rate for 1987 is the average of the single-year rates for the 12-month periods ending October 1986, 1987, and 1988.

[2] Hispanics may be of any race.

[3] Rates for these years have been adjusted to take into account changes in CPS data editing procedures. The adjustments were made in order to facilitate comparisons with the rates for earlier years. Rates for 1987 differ from those shown in Tables 1 and 2 in the text. (See Appendix D for a discussion of the adjustment procedure.)

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A2. Event dropout rate (single year) from grades 10-12, ages 14-24, and standard errors: 1967 to 1988 (Figure 1)

Year ending	Single-year rate	Standard error
	Percent	
1967	5.2	.3
1968	5.2	.3
1969	5.4	.3
1970	5.7	.3
1971	5.4	.3
1972	6.2	.4
1973	6.3	.3
1974	6.7	.3
1975	5.8	.3
1976	5.9	.3
1977	6.5	.3
1978	6.7	.3
1979	6.7	.3
1980	6.0	.3
1981	5.9	.3
1982	5.4	.3
1983	5.2	.3
1984	5.1	.3
1985	5.2	.3
1986[2]	4.7	.3
1987[2]	4.5	.3
1988[2]	5.3	.3

[1] Hispanics may be of any race.

[2] Rates for these years have been adjusted to take into account changes in CPS data editing procedures. The adjustments were made in order to facilitate comparisons with the rates for earlier years. The rates are slightly higher than those shown in Table 1 in the text. (See Appendix D for a discussion of the adjustment procedure.)

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A3. Average event dropout rate (three-year average) from grades 10-12, ages 14-24, by race/ethnicity and sex: 1968 to 1987 (Figure 2)

Year[1]	Race/ethnicity and sex						
	Total		White		Black		Hispanic[2]
	Male	Female	Male	Female	Male	Female	(Total)
			Percent				
1968	--	--	4.6	4.7	10.0	9.5	--
1969	--	--	4.6	5.0	11.0	9.5	--
1970	--	--	4.9	5.1	10.8	8.2	--
1971	--	--	5.1	5.4	10.7	8.5	--
1972	--	--	5.6	5.4	10.7	8.5	--
1973	--	--	6.2	5.5	10.9	10.0	10.2
1974	6.6	6.0	6.0	5.4	10.3	9.9	10.2
1975	6.4	5.8	6.1	5.3	9.2	9.2	9.2
1976	6.3	5.8	6.0	5.5	8.2	8.1	8.7
1977	7.0	5.7	6.7	5.3	9.0	8.4	9.1
1978	7.0	6.2	6.8	5.6	8.7	10.1	10.4
1979	6.9	6.0	6.6	5.4	8.9	9.9	11.5
1980	6.5	6.0	6.2	5.3	8.3	10.0	11.1
1981	6.1	5.4	5.8	4.9	8.8	8.4	10.5
1982	5.8	5.2	5.4	4.7	8.5	7.9	10.0
1983	5.6	4.8	5.3	4.6	7.5	6.2	10.1
1984	5.5	4.8	5.2	4.5	7.1	6.4	10.2
1985	5.5	4.8	5.0	4.6	6.5	6.0	10.9
1986[3]	4.9	4.7	4.7	4.3	6.6	7.0	9.2
1987[3]	5.0	4.6	4.9	4.3	6.2	7.0	9.5

-- Not available.

[1] The year represents the middle of the three years over which rates are averaged. Thus the rate for 1987 is the average of the single-year rates for the 12-month periods ending October 1986, 1987, and 1988.

[2] Hispanics may be of any race.

[3] Rates for these years have been adjusted to take into account changes in CPS data editing procedures. The adjustments were made in order to facilitate comparisons with the rates for earlier years. The rates for males, females, and Hispanics in 1987 differ from those shown in Table 2 in the text. (See Appendix D for a discussion of the adjustment procedure.)

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A4. Status dropout rate, ages 16-24, by sex and race/ethnicity: October, 1968 to 1988 (Figure 3)

Year		Sex		Race/ethnicity		
	Total	Male	Female	White	Black	Hispanic[1]
			Percent			
1968	16.16	15.84	16.45	14.69	27.37	--
1969	15.19	14.26	15.99	13.64	26.74	--
1970	14.96	14.18	15.65	13.17	27.86	--
1971	14.71	14.18	15.20	13.41	23.72	--
1972	14.61	14.09	15.09	13.65	21.45	34.33
1973	14.11	13.67	14.53	12.91	22.29	33.68
1974	14.27	14.19	14.35	13.24	21.28	33.03
1975	13.90	13.28	14.50	12.58	22.83	29.15
1976	14.14	14.14	14.15	13.26	20.41	31.31
1977	14.11	14.45	13.78	13.35	19.72	32.91
1978	14.23	14.63	13.85	13.39	20.22	33.13
1979	14.57	14.96	14.18	13.55	21.17	33.76
1980	14.07	15.08	13.09	13.26	19.34	35.17
1981	13.92	15.12	12.76	13.81	18.51	33.12
1982	13.87	14.50	13.26	13.12	18.40	31.68
1983	13.67	14.85	12.51	12.88	18.09	31.54
1984	13.14	14.02	12.28	12.65	15.56	29.80
1985	12.58	13.40	11.78	12.16	15.69	27.55
1986	12.21	13.07	11.37	11.99	14.11	30.10
1986[2,3]	12.09	12.93	11.27	11.92	13.68	30.04
1987[3]	12.71	13.25	12.18	12.48	14.52	28.56
1988[3]	12.86	13.52	12.23	12.65	14.85	35.75

-- Not available.

[1] Hispanics may be of any race.

[2] Data revised from those previously published.

[3] Rates for these years reflect revised CPS data editing procedures.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A5. Number of status dropouts, ages 16-24, by race/ethnicity: October, 1968 to 1988 (Figure 4)

Year		Race/ethnicity		
	Total	White	Black	Hispanic[1]
		(In thousands)		
1968	4,498	3,560	910	--
1969	4,380	3,419	927	--
1970	4,525	3,457	1,022	--
1971	4,640	3,662	918	--
1972	4,769	3,838	873	609
1973	4,718	3,713	940	579
1974	4,848	3,866	895	654
1975	4,824	3,743	993	572
1976	4,982	3,995	912	645
1977	5,031	4,067	897	699
1978	5,113	4,101	934	723
1979	5,263	4,166	988	757
1980	5,085	4,067	911	886
1981	5,143	4,297	913	889
1982	5,056	4,001	917	823
1983	4,904	3,852	895	816
1984	4,626	3,700	766	762
1985	4,324	3,474	725	796
1986	4,144	3,368	671	965
1986[2,3]	4,101	3,348	650	963
1987[3]	4,251	3,443	687	924
1988[3]	4,231	3,423	698	1,169

-- Not available.

[1] Hispanics may be of any race.

[2] Data revised from those previously published.

[3] Numbers for these years reflect revised CPS data editing procedures.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A6. Status dropout rate, ages 16-24, by race/ethnicity by sex: October, 1968 to 1988 (Figure 5)

Year	Race/ethnicity and sex					
	White		Black		Hispanic[1]	
	Male	Female	Male	Female	Male	Female
	Percent					
1968	14.37	14.97	27.07	27.62	--	--
1969	12.58	14.56	26.90	26.69	--	--
1970	12.15	14.09	29.36	26.55	--	--
1971	12.61	14.15	25.54	22.13	--	--
1972	13.06	14.20	22.25	20.76	33.57	34.99
1973	12.53	13.27	21.60	22.90	30.70	36.42
1974	13.40	13.09	20.14	22.26	33.78	32.31
1975	11.98	13.16	22.83	22.83	26.60	31.51
1976	13.22	13.29	21.20	19.73	30.16	32.29
1977	13.89	12.82	19.45	19.95	31.53	34.18
1978	13.64	13.15	22.52	18.24	33.24	33.04
1979	13.97	13.14	22.52	20.00	33.03	34.46
1980	14.22	12.32	21.06	17.86	37.23	33.18
1981	14.49	13.15	19.97	17.22	35.93	30.35
1982	13.55	12.70	21.10	16.01	30.56	32.73
1983	14.05	11.73	19.82	16.54	34.25	29.05
1984	13.53	11.78	16.71	14.51	30.61	29.05
1985	13.01	11.32	16.06	15.34	29.80	25.21
1986	12.92	11.09	14.86	13.44	32.81	27.16
1986[2,3]	12.81	11.05	14.43	13.02	32.67	27.18
1987[3]	12.98	11.99	15.65	13.50	28.97	28.12
1988[3]	13.45	11.88	15.36	14.40	36.03	35.46

-- Not available.

[1] Hispanics may be of any race.

[2] Data revised from those previously published.

[3] Rates for these years reflect CPS revised data editing procedures.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A7. Standard errors and N's used to calculate standard errors for average event dropout rate and distribution of dropouts (three-year averages) from grades 10-12, ages 14-24, by sex, race/ethnicity, age, region, and metropolitan status: 1986-88 (Table 2)

	Event dropout rate		Percent of all dropouts	
	Standard error[1] (percent)	N[2] (in thousands)	Standard error[1] (percent)	N[2] (in thousands)
Total	.18	29,220	---	1,285
Sex				
Male	.26	14,791	2.1	684
Female	.25	14,424	2.1	601
Race/ethnicity				
White	.20	23,717	.9	995
Black	.57	4,380	1.7	254
Hispanic[3]	.97	2,261	1.6	209
Age				
14-15	.68	1,025	.5	21
16-17	.19	17,323	2.1	479
18-19	.36	10,121	2.1	612
20-24	.32	753	1.5	176
Region				
Northeast	.34	5,980	1.5	189
Midwest	.35	7,547	1.8	316
South	.34	9,848	2.1	496
West	.43	5,845	1.8	284
Metropolitan status				
Central city	.39	7,812	2.1	486
Suburban	.24	13,715	2.1	520
Nonmetropolitan	.37	6,406	1.8	280

[1] Standard errors for the three-year averages.

[2] Three-year totals of those eligible to drop out and of dropouts used to calculate the standard errors for the three-year averages. The three-year average dropout rates are the average of the rates for the three separate years. They differ from the figure that would result from dividing the three-year total of dropouts by the three-year total of those eligible to drop out.

[3] Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

Table A8. Standard errors for status dropout rate and number of status dropouts, ages 16-24, by sex, race/ethnicity, age, region, and metropolitan status: October 1988 (Table 5)

	Status dropout rate (percent)	Number of status dropouts (in thousands)
Total	.28	92
Sex		
Male	.41	66
Female	.38	65
Race/ethnicity		
White	.31	83
Black	.84	39
Hispanic[*]	1.35	44
Age		
16	.58	14
17	.68	25
18	.85	33
19	.93	32
20	.91	32
21	.91	32
22	.94	33
23	.84	32
24	.83	34
Region		
Northeast	.58	38
Midwest	.48	40
South	.51	57
West	.68	46
Metropolitan status		
Central city	.53	58
Suburban	.38	58
Nonmetropolitan	.63	42

[*] Hispanics may be of any race.

Source: U.S.Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

Table A9. Standard errors and sample sizes for cohort dropout rate for 1980 sophomores by socio-demographic and geographic characteristics (Table 9)

Characteristic	Standard error of cohort dropout rate (percent)	Total sample size	Dropout sample size
Total	.6	13,423	2,416
Sex			
Male	.8	6,490	1,264
Female	.7	6,933	1,152
Race/ethnicity			
White	.6	8,492	1,406
Black	1.7	1,959	409
Hispanic	2.1	2,145	466
Asian	1.6	426	31
Am. Indian/Alaskan Native	5.1	307	78
Home language background			
NonEnglish only	2.9	423	99
NonEnglish predominant	2.2	836	169
English predominant	1.3	1,493	206
English only	.5	9,761	1,768
Socioeconomic status			
Highest quartile	.6	3,531	214
Second quartile	.7	3,193	404
Third quartile	.8	3,068	574
Lowest quartile	1.0	3,225	920
Unknown	2.8	406	304
Family structure			
Both parents present	.5	9,820	1,488
One parent present	1.1	2,379	615
Other	3.6	284	114
Region			
Northeast	1.3	3,113	409
Midwest	1.0	3,659	590
South	1.0	4,132	921
West	1.4	2,519	496
Metropolitan status			
Urban	1.6	3,160	728
Suburban	.7	6,769	986
Rural	.9	3,494	702

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table A10. Standard errors and sample sizes for cohort dropout rate for 1980 sophomores by family formation in 1982, and antisocial behavior patterns in 1980 (Table 10)

	Standard error of cohort dropout rate (percent)	Total sample size	Dropout sample size
Total	.6	13,423	2,416
Family formation, 1982			
Married, with children	3.9	217	185
Married, no children	4.7	219	170
Unmarried, with children	4.4	294	166
Unmarried, no children	.5	11,894	1,643
Disciplinary problems in school during last year			
Yes	1.3	2,282	804
No	.4	9,557	1,194
Suspended or on probation from school			
Yes	1.6	1,464	581
No	.4	10,359	1,411
Serious trouble with the law			
Yes	2.5	605	253
No	.4	11,252	1,756

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table A11. Standard errors and sample sizes for cohort dropout rate for 1980 sophomores by 1980 school experience (Table 11)

	Standard error of cohort dropout rate (percent)	Total sample size	Dropout sample size
Total	.6	13,423	2,416
School type			
Public	.6	10,562	2,294
Catholic	1.3	2,502	93
Other private	2.3	359	29
School program			
Academic	.5	4,572	279
Vocational	1.0	2,345	678
General	.7	5,367	1,190
Grades			
Mostly A's	.4	1,337	33
A's and B's	.7	2,266	140
Mostly B's	.7	2,308	183
B's and C's	.8	3,193	537
Mostly C's	1.2	1,682	461
C's and D's	1.7	1,154	523
Mostly D's or less	2.9	510	332
Held back or repeated a grade			
Yes	1.6	1,945	670
No	.6	10,642	1,539
Age at beginning of 9th grade			
15 1/2 or older	2.8	869	479
15 or 15 1/4	2.1	1,034	379
14 1/2 or 14 3/4	.9	3,942	687
14 or 14 1/4	.7	5,184	629
Under 14	1.2	2,162	201
Number of days missed school for reasons other than illness between Sept. and Christmas, 1979			
None	.6	4,471	355
1-2	.6	3,695	408
3-4	1.0	2,103	465
5-10	1.6	1,385	497
11-15	3.4	405	208
16-20	5.7	184	109
21 or more	4.6	223	162

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table A12. Standard errors for change in dropout status of 1980 sophomores between June 1982 and Spring 1986 by socio-demographic and geographic characteristics (Table 15)

	Percent of cohort			Percent of dropouts completed 1982-1986
	Dropouts 1982	Not completed by 1986	Completed 1982-1986	
Total	.6	.4	.4	1.7
Sex				
Male	.8	.6	.6	2.2
Female	.7	.6	.5	2.5
Race/ethnicity				
White	.6	.4	.4	2.0
Black	1.7	1.3	1.2	4.1
Hispanic	2.1	1.9	1.2	4.1
Asian	1.6	.7	1.5	8.0
American Indian/ Alaskan Native	5.1	5.2	2.0	6.0
Home language background				
NonEnglish only	2.9	1.9	2.2	7.2
NonEnglish predominant	2.2	1.7	1.6	5.9
English predominant	1.3	1.0	.9	5.1
English only	.5	.3	.3	1.6
Socioeconomic status				
Highest quartile	.6	.4	.5	4.7
Second quartile	.8	.4	.6	3.2
Third quartile	.8	.6	.6	3.1
Lowest quartile	1.0	.7	.6	2.1
Unknown	2.8	3.8	3.4	4.1
Region				
Northeast	1.3	.8	.9	4.0
Midwest	1.0	.7	.6	3.0
South	1.0	.8	.7	2.7
West	1.4	1.3	1.0	4.0
Metropolitan status				
Urban	1.6	1.2	1.0	3.1
Suburban	.7	.5	.5	2.6
Rural	.9	.8	.5	2.8

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table A13. Standard errors for change in dropout status of 1980 sophomores between 1982 and 1986 by school experience (Table 16)

	Percent of cohort			Percent of dropouts completed 1982-1986
	Dropouts 1982	Not completed by 1986	Completed 1982-1986	
Total	.6	.4	.4	1.7
School type				
Public	.6	.5	.4	1.7
Catholic	1.3	.7	1.0	9.9
Other private	2.3	1.2	2.3	--
School program				
Academic	.5	.5	.5	4.4
Vocational/technical	1.0	.8	.7	2.6
General	.7	.5	.5	2.2
Grades				
Mostly A's	.4	.2	.3	11.0
A's and B's	.7	.3	.6	5.1
Mostly B's	.7	.4	.6	5.5
B's and C's	.8	.6	.6	3.1
Mostly C's	1.2	.9	.9	3.4
C's and D's	1.7	1.4	1.2	2.8
Mostly D's or less	2.9	2.6	2.4	3.7
Held back or repeated a grade				
Yes	1.6	1.5	1.0	3.0
No	.6	.4	.4	1.9
Age at beginning of 9th grade				
15 1/2 or older	2.8	2.7	2.1	3.8
15 or 15 1/4	2.1	1.9	1.3	3.9
14 1/2 or 14 3/4	.9	.7	.6	3.1
14 or 14 1/4	.7	.5	.5	3.1
Under 14	1.2	.8	.9	5.7
Days absent, other than illness between Sept. and Christmas, 1979				
None	.6	.3	.4	3.4
1-2	.6	.5	.4	3.4
3-4	1.0	.7	.7	3.1
5-10	1.6	1.2	1.2	3.1
11-15	3.4	2.8	2.8	4.9
16-20	5.5	4.5	3.8	6.5
21 or more	4.6	4.2	4.2	5.2

– Fewer than 30 cases.

Source: U.S. Department of Education, National Center for Education Statistics, High School and Beyond survey, sophomore cohort, unpublished tabulations.

Table A14. Standard errors for average event dropout rate (three-year average) from grades 10-12, ages 14-24, by race/ethnicity: 1968 to 1987 (Table A1)

Year[1]		Race/ethnicity		
	Total	White	Black	Hispanic[2]
		Percent		
1968	.2	--	--	--
1969	.2	--	--	--
1970	.2	--	--	--
1971	.2	--	--	--
1972	.2	--	--	--
1973	.2	--	--	1.4
1974	.2	.2	.7	1.4
1975	.2	.2	.7	1.3
1976	.2	.2	.7	1.2
1977	.2	.2	.7	1.2
1978	.2	.2	.7	1.3
1979	.2	.2	.7	1.3
1980	.2	.2	.7	1.3
1981	.2	.2	.7	1.2
1982	.2	.2	.7	1.3
1983	.2	.2	.6	1.3
1984	.2	.2	.6	1.3
1985	.2	.2	.6	1.1
1986	.2	.2	.6	1.0
1987	.2	.2	.6	1.0

-- Not available.

[1] The year represents the middle of the three years over which rates are averaged. Thus the rate for 1987 is the average of the single-year rates for the 12-month periods ending October 1986, 1987, and 1988.

[2] Hispanics may be of any race.

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A15. Standard errors for average event dropout rate (three-year average) from grades 10-12, ages 14-24, by race/ethnicity and sex: 1968 to 1987 (Table A3)

Year[1]	Race/ethnicity and sex						
	Total		White		Black		Hispanic[2]
	Male	Female	Male	Female	Male	Female	(Total)
	Percent						
1968	--	--	.3	.3	1.1	1.0	--
1969	--	--	.3	.3	1.2	1.0	--
1970	--	--	.3	.3	1.1	1.0	--
1971	--	--	.3	.3	1.1	.9	--
1972	--	--	.3	.3	1.1	.9	--
1973	--	--	.3	.3	1.1	1.0	1.4
1974	.3	.3	.3	.3	1.0	1.0	1.4
1975	.3	.3	.3	.3	1.0	.9	1.3
1976	.3	.3	.3	.3	.9	.9	1.2
1977	.3	.3	.3	.3	.9	.9	1.2
1978	.3	.3	.3	.3	.9	.9	1.3
1979	.3	.3	.3	.3	.9	.9	1.3
1980	.3	.3	.3	.3	.9	.9	1.3
1981	.3	.3	.3	.3	.9	.9	1.2
1982	.3	.3	.3	.3	1.0	.9	1.3
1983	.3	.3	.3	.3	.9	.8	1.3
1984	.3	.3	.3	.3	.9	.8	1.3
1985	.3	.3	.3	.3	.9	.8	1.1
1986	.3	.3	.3	.3	.8	.8	1.0
1987	.3	.3	.3	.3	.8	.8	1.0

-- Not available.

[1] The year represents the middle of the three years over which rates are averaged. Thus the rate for 1987 is the average of the single-year rates for the 12-month periods ending October 1986, 1987, and 1988.

[2] Hispanics may be of any race.

Source: R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989; U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A16. Standard errors for status dropout rate, ages 16-24, by sex and race/ethnicity: October, 1968 to 1988 (Table A4)

Year		Sex		Race/ethnicity		
	Total	Male	Female	White	Black	Hispanic*
	Percent					
1968	.34	.49	.46	.35	1.25	--
1969	.32	.46	.45	.33	1.21	--
1970	.31	.44	.44	.32	1.19	--
1971	.30	.43	.43	.31	1.10	--
1972	.30	.42	.42	.31	1.04	1.82
1973	.29	.41	.41	.30	1.03	1.84
1974	.29	.41	.40	.30	1.02	1.70
1975	.28	.40	.40	.29	1.03	1.65
1976	.28	.40	.39	.30	.97	1.65
1977	.28	.40	.39	.30	.95	1.64
1978	.28	.41	.39	.30	.95	1.62
1979	.28	.41	.39	.30	.96	1.61
1980	.28	.41	.38	.29	.93	1.53
1981	.27	.40	.37	.30	.89	1.46
1982	.28	.40	.38	.29	.88	1.47
1983	.28	.41	.37	.29	.88	1.47
1984	.27	.40	.37	.30	.83	1.46
1985	.27	.40	.37	.29	.86	1.34
1986	.27	.40	.37	.29	.81	1.31
1986	.27	.39	.37	.29	.80	1.31
1987	.28	.40	.38	.30	.83	1.28
1988	.28	.41	.38	.31	.84	1.35

-- Not available.

* Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A17. Standard errors for number of status dropouts, ages 16-24, by race/ethnicity: October, 1968 to 1988 (Table A5)

Year	Total	Race/ethnicity		
		White	Black	Hispanic*
		(In thousands)		
1968	93	84	41	--
1969	93	83	42	--
1970	94	83	44	--
1971	96	86	43	--
1972	97	88	42	32
1973	97	86	44	32
1974	98	88	43	34
1975	98	87	45	32
1976	99	90	43	34
1977	100	90	43	35
1978	101	91	44	35
1979	102	91	45	36
1980	101	90	44	39
1981	101	93	44	39
1982	100	90	44	38
1983	99	88	44	38
1984	96	86	41	37
1985	93	84	40	39
1986	92	83	39	42
1986	91	83	38	42
1987	93	83	39	41
1988	92	83	39	44

-- Not available.

* Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

Table A18. Standard errors for status dropout rate, ages 16-24, by race/ethnicity by sex: October, 1968 to 1988 (Table A6)

Year	Race/ethnicity and sex					
	White		Black		Hispanic*	
	Male	Female	Male	Female	Male	Female
	Percent					
1968	.50	.48	1.83	1.70	--	--
1969	.47	.46	1.79	1.65	--	--
1970	.45	.45	1.78	1.61	--	--
1971	.44	.44	1.65	1.47	--	--
1972	.44	.44	1.54	1.40	2.64	2.50
1973	.42	.43	1.49	1.43	2.59	2.59
1974	.43	.42	1.47	1.41	2.45	2.37
1975	.41	.42	1.51	1.40	2.32	2.34
1976	.42	.42	1.45	1.31	2.41	2.26
1977	.43	.41	1.39	1.30	2.35	2.30
1978	.42	.41	1.46	1.25	2.33	2.26
1979	.43	.41	1.45	1.29	2.30	2.25
1980	.43	.40	1.41	1.23	2.21	2.12
1981	.43	.41	1.34	1.19	2.12	2.02
1982	.42	.41	1.36	1.15	2.09	2.07
1983	.43	.40	1.33	1.17	2.17	2.00
1984	.43	.40	1.24	1.12	2.12	2.01
1985	.43	.40	1.24	1.20	1.92	1.83
1986	.43	.40	1.21	1.10	1.85	1.83
1986	.43	.40	1.20	1.08	1.85	1.83
1987	.44	.42	1.24	1.10	1.78	1.84
1988	.45	.42	1.23	1.14	1.88	1.95

*Hispanics may be of any race.
-- Not available.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

APPENDIX B

COMPLETION/GRADUATION RATES

Another set of rates, frequently used to derive estimates of dropout rates, are measures of a related concept, high school completion or graduation.[25] A completion rate measures the proportion of some population group which has completed high school. However, it is not correct to conclude that (100 - completion rate) is a dropout rate. A noncompleter is not necessarily a dropout. Students who, based on their age or grade in a prior year, might be expected to have completed high school may not yet have completed high school and never have been a dropout. For example, students may take longer than the norm to finish high school because they must repeat courses or grades, because of illness or injury, or because they started school at an older age than other students.

The last three columns in Table B1 present various completion/graduation rates that are frequently cited. All are calculated as graduates as a percentage of some population that is assumed should already have graduated from high school. All yield completion rates between 70 and 77 percent since 1970. In the past, analysts have used these figures to estimate a national dropout rate of 25 percent or higher.

Completion rate. The second column shows the proportion of 18- and 19-year-olds who have completed high school. The fallacy in using this measure to compute an estimated dropout rate is that it does not take into account those still enrolled in elementary/secondary school. This can be seen by looking at the first column in Table B1, which shows what might be called the completion/retention rate for 18- and 19-year-olds, (100 - status dropout rate). This figure varied between 83 and 88 percent from 1970 to 1988. The difference between the first two columns in the table is that the first one includes the proportion of 18- and 19-year-olds still enrolled in school below the college level. During the period covered in the table, that percentage has been between 10 and 14 percent, and has been higher for males than for females and for blacks than for whites. In October 1988, 14 percent of all 18- and 19-year-olds were enrolled below the college level -- 18 percent of males, 9 percent of females, 12 percent of whites and 24 percent of blacks (Tables 6 and B2).

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[25] Pallas, op. cit. and Kominski, op. cit.

Table B1. Alternative measures related to completing high school: 1970 to 1989

Year	Percent of 18-19 year olds		High school graduates as percent of 17-year-olds[2] (School year ending)	Graduates as percent of 9th graders 4 years before[3] (School year ending)
	completed high school[1] or enrolled below college (October)	completed high school[1] (October)		
	(1)	(2)	(3)	(4)
1970	83.8	73.3	76.9	--
1971	84.7	73.2	75.9	--
1972	85.3	74.9	75.5	--
1973	84.0	74.0	75.0	--
1974	83.4	73.4	74.4	--
1975	84.0	73.7	73.6	--
1976	83.4	73.1	73.7	--
1977	83.4	72.9	73.9	--
1978	83.3	73.5	73.0	--
1979	63.2	72.8	72.0	--
1980	84.3	73.7	71.4	--
1981	84.0	72.5	71.8	--
1982	83.3	72.0	72.7	69.5
1983	85.5	72.7	73.3	--
1984	84.8	73.3	73.7	70.8
1985	85.7	74.6	73.2	71.7
1986	87.9[4,5]	74.6[4,5]	73.0	71.6
1987	86.7[5]	73.6[5]	73.0	71.1
1988	85.4[5]	71.5[5]	73.9[6]	--
1989	--	--	74.0[6]	--

-- Not available.

[1] Includes graduates of public and private high schools and recipients of equivalency credentials.

[2] Includes graduates of regular day school programs in private and public high schools. Does not include recipients of equivalency credentials.

[3] Public schools only; does not include recipients of equivalency credentials. Adjusted for state migration rates and unclassified students.

[4] Data revised from previously published.

[5] Data based on different editing procedures than in earlier years.

[6] Estimated.

Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations; U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, 1989, forthcoming; and U.S. Department of Education, Office of Planning, Budget, and Evaluation, State Education Statistics (Secretary's Wall Chart), various years.

Table B2. High school completion status by race/ethnicity by sex by age: October 1988

	Race/ethnicity and sex					
	Male			Female		
Age	White	Black	Hispanic*	White	Black	Hispanic*
	Percent enrolled in high school or below					
18-19	16.4	28.6	24.2	7.1	19.2	8.8
20-21	1.0	.7	2.6	.4	.0	1.2
	Percent completed high school					
18-19	68.1	53.4	40.6	79.9	63.1	63.8
20-21	83.0	77.6	53.9	87.2	84.8	56.1
	Percent high school dropouts					
18-19	15.5	18.0	35.2	13.1	17.7	27.4
20-21	16.1	21.8	43.5	12.5	15.2	42.7

* Hispanics may be of any race.
Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished tabulations.

The impact on completion rates of the substantial proportion of 18- and 19-year-olds still enrolled in 12th grade or less can be seen in Table B3. The completion rate for 20- and 21-year-olds is considerably higher than for 18- and 19-year-olds. By 20 or 21, few people are still enrolled below college (1 percent or less); those who were enrolled at 18 and 19 have either completed or dropped out. In addition, some who were dropouts at 18 or 19 have completed high school by 20 or 21.

Completion rates for 18- and 19-year-olds have not changed since 1970. There were changes in the 1970s for older age groups as better educated age cohorts were replacing older, less well educated ones. Table B3 also shows some evidence of the returnee phenomenon, although the increase in completion rates for an age cohort after 20-21 is small, less than five percent. For example, those 20-24 in 1970 were 25-29 in 1975 and 30-34 in 1980 and the completion rate for this cohort rose from 81.2 percent in 1970 to 85.1 percent in 1980. The 20- to 24-year-old cohort in 1975 was 30- to 34-years old in 1985. The completion rate for this cohort was 83.9 percent in 1975 and 87.1 percent in 1985.

Table B3. Proportion completing high school by age: 1970 to 1988

October	Age 18-19	 20-21	 22-24	 25-29	 30-34
1970	73.3	81.9	80.7	77.0	73.0
1975	73.7	82.4	85.0	84.2	79.1
1980	73.7	83.0	84.3	85.7	85.1
1985	74.6	84.9	85.5	85.6	87.1
1986[1,2]	74.6	84.1	85.3	85.7	87.2
1987[2]	73.6	84.3	84.4	85.5	86.9
1988[2]	71.5	84.8	85.1	85.9	87.0

[1] Data revised from those previously published.
[2] Rates for these years reflect CPS revised data editing procedures.
Source: U.S. Department of Commerce, Bureau of the Census, "School Enrollment--Social and Economic Characteristics of Students, October (various years)," Current Population Reports, Series P-20, and unpublished tabulations.

"Cohort" completion rates. The third and fourth columns in Table B1 are attempts to construct approximations of a cohort completion rate, using cross-sectional data that are available on an annual basis. They show the number of graduates in a single year as a proportion of a particular cohort -- an age cohort (17-year-olds) in column 3 and a grade cohort (9th graders four years earlier) in column 4.[26] These "cohort" completion rates are much lower than the cohort rate derived from the HS&B longitudinal study -- 82.7 percent, or the completion/retention rates shown in column 1.

Some of the difference may reflect that these are not true cohorts. Individuals represented in the graduate counts may not necessarily be members of the cohort reflected in the denominator. Graduates who are members of the cohort may not be counted in the numerator. The data for the numerator and denominator for these two measures do not come from the same source. The estimates of the number of graduates come from NCES' Common Core of Data (CCD), which is based on reports submitted by the states to NCES, and periodic NCES surveys of private schools. The denominators come from CPS (17-year-olds) and CCD in an earlier year (9th graders four years earlier).

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[26] The number of graduates in a single year includes those who graduate on time with their class, late completers who never dropped out, and some who dropped out and later returned.

There are several other factors that may contribute to the differences between the rates shown in columns 3 and 4 and the completion/retention rates for 18- and 19-year-olds shown in column 1 (and the HS&B completion rate). One is differences in data collection methodologies. CPS is a sample survey of households, while CCD is based on aggregate state reports derived from administrative records. There could be an upward bias to the CPS estimates if there is any tendency for respondents to exaggerate the educational accomplishments of household members. In addition, certain populations in which dropout rates are above average, such as young black males, tend to be undercounted in both CPS and the decennial census. Furthermore, those in institutions and the military are excluded from CPS. On the other hand, state reports of the number of graduates may not be comprehensive nor reflect a consistent definition either over time or across states of who is being reported as a graduate. CPS (and HS&B) includes those who have graduated from private schools, where graduation rates are higher than in public schools. The rate in column 5 is only for public school students.

Another factor is the definition of high school completion reflected in the statistics. The CCD counts of graduates do not include those who receive equivalency credentials, whereas those who have received such credentials are considered high school completers in CPS. In 1987, the number of GED credentials issued was approximately 444,000.[27] NCES' estimated there were 2.7 million high school graduates in 1986-87.

Trends over time in completion rates. High school completion rates have increased markedly in the past 120 years (Table B4). In the late 1800s very few people graduated from high school. Graduates as a percentage of 17-year-olds increased every decade from 1869-70 until the 1970s. The increase per decade was small prior to World War I, but was very substantial between 1919-20 and 1939-40. On the other hand, there has been no gain, and some decrease, in the measure in the past 25 years. It did not increase in the mid to late 1960s and declined about five percentage points during the 1970s. Some of the 1970s decline was reversed in the 1980s.

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[27] General Educational Development Testing Service of the American Council on Education, The 1987 GED Statistical Report, Washington, D.C.: 1988.

Table B4. High school graduates compared with population 17 years of age: 1869-70 to 1988-89

School year	Population 17 years old	High school graduates[1]	Graduates as percent of 17-year-olds
	(Numbers in thousands)		
1869-70	815	16	2.0
1879-80	946	24	2.5
1889-90	1,259	44	3.5
1899-1900	1,489	95	6.4
1909-10	1,786	156	8.8
1919-20	1,855	311	16.8
1929-30	2,296	667	29.0
1939-40	2,403	1,221	50.8
1949-50	2,034	1,200	59.0
1959-60	2,672	1,858	69.5
1961-62	2,768	1,918	69.3
1963-64	2,978	2,283	76.7
1965-66	3,489	2,665	76.4
1967-68	3,532	2,695	76.3
1969-70	3,757	2,889	76.9
1971-72	3,973	3,001	75.5
1973-74	4,132	3,073	74.4
1975-76	4,272	3,148	73.7
1977-78	4,286	3,127	73.0
1979-80	4,262	3,043	71.4
1980-81	4,207	3,020	71.8
1981-82	4,121	2,995	72.7
1982-83	3,939	2,888	73.3
1983-84	3,753	2,767	73.7
1984-85	3,658	2,677	73.2
1985-86	3,621	2,642	73.0
1986-87	3,696	2,698	73.0
1987-88[2]	3,779	2,793	73.0
1988-89[2]	3,761	2,781	74.0

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[1] Includes graduates of public and private high schools. For most years graduates of private high schools have been estimated. Before 1939-40, excludes graduates of high schools not reporting to the Office of Education. Excludes recipients of equivalency credentials.

[2] Estimated.

Source: U.S. Department of Education, National Center of Education Statistics, Digest of Education Statistics, 1989, forthcoming.

APPENDIX C

DATA SOURCES ON DROPOUTS: CURRENT AND FUTURE

The two primary national data sources on dropouts currently available are the Current Population Survey, conducted by the Bureau of the Census, and High School and Beyond, a longitudinal survey conducted by the National Center for Education Statistics. These were the data sources utilized in this report. However, NCES is presently testing or implementing three additional data collections, which may provide more extensive and reliable data about dropouts and dropout rates in the near future. These are the National Education Longitudinal Survey of 1988 (NELS:88), the National Household Education Survey (NHES), and a dropout component to the existing Common Core of Data (CCD). These new collections and plans for them were described in detail in an earlier report to Congress, Activities to Plan and Implement the Reporting of School Dropout and Retention Indicators: Status Report to the United States Congress on Activities Related to Section 406 (G) of the General Education Provisions Act as Amended by Public Law 100-297, May 1989. Brief descriptions of these current and potential data sources on dropouts are provided below.

Current Data Sources

Current Population Survey. The October Supplement to the Current Population Survey (CPS) is the only current national data source that can be used to estimate an annual national dropout rate (event) or the number of dropouts nationally regardless of when they dropped out (status). CPS is a nationally representative sample survey of all households and the annual October Supplement obtains information about school enrollment and educational attainment for each member of a household. To identify dropout events, it also asks about enrollment one year prior to the interview.

From CPS it is possible to obtain the number and proportion of dropouts, defined either as an event or a status, and some information about the characteristics of dropouts. For calculating an annual dropout rate, dropouts are defined as those not currently enrolled in school, who were enrolled a year ago and are not high school graduates. The limitations of CPS as a data source on dropouts stem from the size of the sample and the survey's broad scope. Because CPS collects no information on school characteristics and experiences, its uses in addressing dropout issues are primarily for providing some insights into who drops out and estimating national dropout rates. It is also the only source of time series data on dropout rates. Data are available since 1967 to calculate event rates and earlier for status rates.

Very few household members who dropped out in the past 12 months appear in the sample -- approximately 350-400 in the CPS sample households each October. Because the number is low, national estimates of dropout rates for a single year cannot be very precise and estimates for subgroups such as racial/ethnic groups even less precise. Therefore, the CPS data are not very helpful for monitoring year-to-year changes in dropout rates, since only large changes are statistically significant. The problem is more severe for subgroups, including regions, the only subnational geographic level at which CPS is representative for the entire country.

The survey is conducted in approximately 60,000 dwelling units in 729 primary sampling units. Dwelling units are in-sample for four successive monthly interviews, out-of-sample for the next eight months, and then returned to the sample for the following four months. Some interviews are conducted by telephone. The sampling frame is a complete list of dwelling-unit addresses at the Census updated by demolitions and new construction and field listings. The population surveyed excludes members of the Armed Forces, inmates of correctional institutions, and patients in long-term medical or custodial facilities; it is referred to as the civilian, non-institutionalized population. Typically, about four percent of dwelling units are not interviewed, because occupants are not at home after repeated callbacks, or for some other reason.

High School and Beyond. High School and Beyond (HS&B) is NCES' national longitudinal survey of 1980 high school seniors and sophomores. A probability sample of 1,015 high schools was selected with a target number of 36 seniors and 36 sophomores in each school. Over 58,000 students -- 30,000 sophomores -- participated in the base-year survey. Students completed questionnaires and took a battery of cognitive tests. Subsamples of the two cohorts were resurveyed in the springs of 1982 (lst follow-up), 1984 (2nd follow-up), and 1986 (3rd follow-up). High school transcripts were obtained in 1982 for more than half the sophomore cohort. Representing the nation's high school sophomores of 1980 (for Census divisions as well as nationally) with substantial oversampling of special populations, this longitudinal study is mainly dependent on student self-reports (in group or personal interview situations) for collecting experiences between 1980 and 1986.

In the 1982 first follow-up, all members of the sophomore cohort attending the same school as in 1980 were sampled with certainty, while those not attending the same school were subsampled at varying rates. Dropouts were selected with certainty and administered a separate dropout questionnaire. Over 2,000 of the sophomore cohort were identified as dropouts at the time of the first follow-up (spring of 1982). For the sophomore cohort, the HS&B database contains school information (about the base-year school); base-year student questionnaire data; transcript data (complete records of high school course taking); 1st, 2nd and 3rd follow-up student data; and cognitive test results administered in the base year and first follow-up.

Because of the timing of the survey, HS&B is only representative of individuals who were enrolled as sophomores in spring 1980 (excluding individuals in special schools). Missing are those dropping out before administration of the HS&B questionnaire during spring 1980. Another limitation is the inability to distinguish between two types of students who completed high school after June 1982 -- those who dropped out and returned to finish and those who never dropped out but took longer to complete high school. Despite these limitations, the dropout data contained in HS&B represent one of the best sources of comparable information on the family, school, and occupational histories of dropouts and nondropouts. Because of its longitudinal nature, the HS&B data set is suitable for examining how many and which dropouts later return to complete high school and by what routes.

Future (Potential) Data Sources

National Education Longitudinal Study. The National Education Longitudinal Study of 1988 (NELS:88) is the third in NCES' series of longitudinal studies. In order to address a wider range of issues related to the transition of students through school and beyond, NELS:88 began with eighth graders. A nationally representative sample of 1000 schools (800 public and 200 private) was drawn and a random sample of 26,000 eighth-grade students selected. Base-year data were collected in 1988 from students, parents, school administrators, and teachers. Subsamples of the eighth grade cohort will be followed at two-year intervals, beginning in 1990.

For the purposes of NELS:88, an event history definition of dropping out will be used, gathering information on the timing of dropout decisions. Dropouts who later return to school can be distinguished from those who do not return. Each dropout identified in 1990 will complete a special dropout questionnaire and take a battery of tests. For each dropout, the data set will include base-year student, parent, teacher, and school data plus first follow-up data that will stress reasons for dropping out and employment history after dropping out. Present plans call for following dropouts every two years for the next 8-10 years. Those students who drop out of school between 1990 and 1992 (approximately 10th to 12th grade as in HS&B) will also be identified and followed.

NELS:88 is a nationally representative sample of 1988 eighth-grade students with substantial oversampling of special populations, including Hispanics and Asian/Pacific Islanders. Since all students identified as dropouts will be followed, the dropout sample should also be nationally representative of students who left school after spring of eighth grade.

Because NELS:88 will collect data on family, occupational, and educational histories over time, the study will be a valuable source of data about dropouts and how they compare to nondropouts. Although the sample was not designed to be representative of States, it will be representative of the nine Census divisions. This data base will not be representative of dropouts who left school before spring of 8th grade or those who were attending special (e.g., alternative, handicapped) schools after the eighth grade.

Common Core of Data. The Common Core of Data (CCD) administered by NCES is an annual universe survey of the State-level education agencies in the 50 States, the District of Columbia and the outlying areas. Statistical information is collected on public schools, staff, students, and finance. CCD does not presently collect data on dropouts, but NCES plans to implement such a data collection over the next several years.

A pilot test of dropout data collection will take place in 27 States and three territories (a total of approximately 270 school districts) for the 1990 CCD data collection. When the dropout statistics are added to the CCD, it will be possible to report the number of dropouts from public schools and an event dropout rate for States, major subpopulations, and the Nation. Data will be collected by grade for grades 7 to 12, and rates by grade can be reported. An evaluation of the pilot test will be completed in 1990-91.

The CCD dropout reporting system will have three components: a dropout definition, a protocol for districts and States to follow for reporting dropout statistics to NCES, and a protocol for NCES to follow for summarizing and publishing these statistics. Data will be gathered through State education agencies based on administrative records maintained at school districts and schools. The measure will be a one-year cross-section. This is to be a universe count; no samples are planned. The current plans for the definition and protocols are described below. These are subject to change depending on the outcome of the pilot test and its evaluation.

Definition.[a] A school dropout is an individual who was enrolled in school at some time during the previous school year, was not enrolled at the beginning of the current school year, has not graduated from high school or completed an approved educational program, and does not meet any of the following exclusionary conditions:

- o death;
- o temporary absence due to suspension or illness;
- o transfer to another public school district, private school, or a State or District approved education program.

For the purposes of this definition:

- o A school year is the twelve-month period of time beginning with the normal opening of school in the fall;
- o An individual has graduated from high school or completed an approved education program upon receipt of formal recognition from school authorities;
- o A State or District approved education program may include special education programs, home-based instruction, and school-sponsored GED preparation.

Protocol: State and Local. The reporting protocols for States and districts are based on applying the definition at the district level, and transmitting the resulting counts, through the State, to NCES. This process will be incorporated into the data collection for the Common Core of Data (CCD). States will be requested to count and report dropouts at the district level from grades 7 through 12, and to identify each dropout by sex and by race/ethnicity, as well as by grade. Counts are requested for every cell representing a combination of sex, race and grade. There are 60 such cells. The format also calls for reporting membership counts for sex by race and by grade, so that dropout rates can be calculated for those cells.

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[a] This is a statistical definition, which is being field tested as the basis for collecting comparable national and state dropout data. It is similar to the definition developed for the purposes of the School Dropout Demonstration Assistance Program, established under Sec. 6201 (a) of the Hawkins-Stafford School Improvement Amendments.

Protocol: NCES. The final component of the system includes the summarization and reporting of data by NCES. The basic procedure will be to aggregate dropout counts and enrollments so that dropout rates can be reported at the State, regional and national levels. This will be done for the individual cells, for specific sub-populations, and for the total population. In addition, NCES will calculate an overall measure of the dropout rate across grades 9 through 12 at the State level.

The major potential weakness is the accuracy of the counts due to uncertainty about the ability of school personnel to differentiate "true" dropouts from students who transfer to another school. There may also be incentives to under-report dropouts, which could distort counts. Both potential sources of error will be evaluated. Validation studies are an integral part of the pilot test and will be conducted by an independent contractor. The breadth of the data set is limited to race/ethnicity, grade, and sex. Data will be useful for monitoring change down to the school district level and can be linked to limited school district characteristics gathered through CCD. The coverage of public schools will only be limited by SEA/LEA willingness and ability to adopt the new reporting system and definition.

The pilot test will take place during the school year 1989-1990. The refinements and evaluation will continue through 1990-91. If the system is successful, it would be implemented for school year 1991-92 and would be an annual collection. The first data would be available in late December 1992.

National Household Education Survey. NCES, recognizing that current school-based surveys (e.g., NELS:88, HS&B) cannot provide all of the data needs of policy makers on the issue of dropouts, has initiated plans to collect dropout data as part of the National Household Education Survey (NHES). Through this survey, NCES will collect information from households (via telephone) about the school enrollment and educational attainment of 14- to 21-year olds. Data will be gathered for dropouts and nondropouts about demographic characteristics, family background, education and employment history, marital and family formation history, family income, school experiences, and participation in education programs after leaving high school. Data collected will allow the Center to estimate at the national level for those 14 to 21 years of age: dropout counts/rates below college level over a 12-month period and counts/rates of those not enrolled and not graduated from high school. A pilot test will be conducted in October 1989, and an evaluation completed in Spring 1990.

As presently designed, NHES will use a two-tiered telephone interview procedure to first screen households and then to survey individuals 14 to 21, nondropouts and dropouts.

One feature of the NHES design is to oversample minority households. A major limitation of this study is that only households with telephones will be screened by NHES.

The NHES will collect data from non-institutionalized samples of individuals, those not connected with specific schools. Possible obstacles to collecting dropout data via a household telephone survey are: (1) an estimated 19 percent of dropouts reside in nontelephone households; and (2) the difficulty in identifying all persons associated with a given household. The pilot study will provide information on the effectiveness of various strategies to deal with these problems. Together with October CPS data, the NHES data base may provide a means to develop precise nationally representative dropout counts/rates.

APPENDIX D

TECHNICAL NOTES

Definition of Who is a Dropout

One of the concerns being addressed in the new data collections on dropouts is the development and implementation of a nationally consistent definition of a dropout. Currently, there is considerable variation across local, state and Federal data collections on such issues as:

- o Whether those below the legal school-leaving age are identified as dropouts;
- o Whether students entering the military or correctional institutions are considered dropouts;
- o Whether those in GED programs or with an equivalency certificate are considered dropouts;
- o Whether those not graduating with their class (but never leaving school) are considered dropouts; and
- o Whether those leaving high school early to enter college are considered dropouts.

The dropout definitions embedded in the existing data sources -- CPS and HS&B -- are neither consistent with one another nor with the new definition that NCES is trying to develop. Furthermore, there have been changes in CPS data editing procedures as of 1986-87. There will be some discontinuities in dropout reporting as the new and more consistent data become available.

Defining and calculating event dropout rates using CPS

Using data from CPS, a person is considered to have dropped out during the 12-month period from one October to the next if s/he was enrolled in school at the beginning of the 12-month period, is not enrolled at the end of the period, and has not received a diploma or an equivalency certificate in the meantime.

To calculate an event rate using CPS, the number of dropouts is divided by an estimate of the number of students enrolled the previous October. Since the CPS survey takes place the first full week in October and relatively few students drop out during the first month of school, the CPS event rates approximate rates for a school year. What is not captured in the CPS rate is students who drop out and return to school within the 12-month period and students who enrolled after the first week of October the previous year. The definition being field tested in the Common Core of Data (CCD) by NCES includes all students enrolled at any time during the previous school year, as does the definition developed by the U.S. Department of Education in connection with the Dropout School Demonstration Assistance Project.

CPS asks the question on enrollment the previous October only about individuals 14 years and older. Because many students and some dropouts are less than 14 in grades below the tenth grade, this report focuses on dropout rates for grades 10-12. Included in the grade 10-12 rate are students who completed the 9th grade the previous year, but did not return in the fall to begin 10th grade.

A limitation of CPS as a data source on dropout events is the lack of precision in the estimates of event dropout rates, especially below the national level. For a change in the national dropout event rate from one 12-month period to another to be significant at the .05 level, assuming 1988 rates and sample sizes, the change would have to be greater than 0.9 percent. For blacks, it would need to be at least 2.9 percent and for Hispanics, 5.1 percent. These changes seem relatively large compared to the actual event rates in 1988 -- 4.8 percent nationally, 6.3 percent for blacks and 10.6 percent for Hispanics, and the actual changes in rates over the past twenty years.

However, this limitation can be reduced by combining the data for three years and calculating a three-year-average event rate.[29] These averages, because they are based on larger sample sizes, have the properties of being somewhat less erratic and having smaller standard errors than the single-year rates. Therefore, the estimates are more precise and differences over time and between groups are easier to detect. Using three-year averages reduces the size of the change needed in order to conclude that a difference between two years is significant to 0.5 percent for the national rate, 1.6 percent for blacks, and 2.7 percent for Hispanics.

A minor disadvantage to this approach is that a three-year average cannot be calculated for the most recent year in which there are data. Thus, the last three years of CPS data are 1986, 1987, and 1988, and they are used to calculate an event rate for 1987. That 1987 rate represents the average of the rates for three periods: October 1985-October 1986, October 1986-October 1987, and October 1987-October 1988. (Data covering the period October 1988 to October 1989 will be collected in the first week of October 1989.)

To use the 12-month event rate for grades 10-12 to estimate a cohort rate for a group of entering tenth graders involves two assumptions: that the event rate is approximately the same for each grade and that the rate does not change over the three years between tenth and twelfth grade. The estimated cohort rate does not equal three times the 12-month event rate, since each year there are fewer students as some have already dropped out. Thus, if the grade 10-12 event rate is 4.4 percent, the calculation for the grade 10-12 cohort rate is the following:

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[29] R. Kominski, "What is the National High School Dropout Rate?," unpublished paper, March 1989.

Retention rate after 10th grade = 1.00 - .044 = .956
Retention rate after 11th grade = .956 - (.956)(.044) = .956 - .042 = .914
Retention rate after 12th grade = .914 - (.914)(.044) = .914 - .040 = .874

Dropout rate for the 10th grade cohort = 1.00 - .874 = .126

The general formula for calculating such a tenth grade cohort rate is:
$1.00 - (1.00 - \text{event rate})^3$.

Beginning with 1986, to improve the quality of the data the Bureau of the Census has instituted new editing procedures for cases with missing data on school enrollment items. The effect of the editing changes for 1986, a bridge year in which the data were edited using both the old and new procedures, was to increase the number of students enrolled in school and decrease the number of students enrolled last year but not enrolled in the current year. The new editing procedures lowered the 1986 event rate for grades 10-12, ages 14 to 24, by about 0.4 percent, from 4.69 to 4.28 percent. While a difference of 0.4 percent is large relative to the observed year-to-year changes in the event rate, it is not statistically significant. However, it can affect the assessment of the significance of differences between rates in years before and after the editing change. For example, the difference between the 1985 (5.2 percent) and 1986 event rates is significant based on the new 1986 rate (4.3 percent) but not on the old rate (4.7 percent).

To facilitate comparisons of event rates for years before and after the editing change and to be able to compute a three-year average event rate for 1986 using three years of data reflecting the same editing procedures, the single-year event rates for 1987 and 1988 were adjusted. This was done for each type of rate (national, black females, Hispanics, etc.) by taking the ratio of the 1986 rate based on the old editing procedures to the 1986 rate based on the new editing procedures for that rate and then multiplying the 1987 and 1988 rates by the ratio. Three-year averages were calculated for 1986 and 1987 using these adjusted data and were used in the analysis of time series trends from 1968 to 1987. When 1986 data based on the new editing procedures are used in tables in this report, they are denoted as being "Data revised from those previously published."

The changes in the editing procedures made less difference in the status dropout rates for 16- to 24-year-olds -- 12.21 percent based on the old procedures and 12.09 based on the new. Partly because the differences were smaller, both absolutely and relatively, and partly because there was no gap in years, since single-year rates were analyzed for status dropout rates, no adjustments were made to the rates for 1987 and 1988 to make them comparable to earlier years. The time series analysis for status dropouts was based on the years derived used the same editing procedures, 1968-1986.

Defining cohort dropout rates using HS&B

Because HS&B is such a rich data source, several different dropout rates have been calculated for this single cohort of students. The primary reasons for differing rates are threefold: differences in the group of students, differences in the timing and wording of items, and multiple sources of information about school enrollment and completion status. Questions relating to whether an individual was a dropout were included in all three follow-ups. Since the first follow-up was in spring of 1980, there were some students still enrolled in school at the time of the first follow-up who later dropped out. Thus, the 13.6 percent dropout rate derived from the first follow-up understates the sophomore cohort's dropout rate.[30] Dropout rates based on the transcript data and the second and third follow-up data have been 2 to 4 percent higher. (All these rates are underestimates, since they exclude the students who dropped out before the spring of their sophomore year.)

The sample of students has varied with time. The sample size has varied and not everyone in the sample for a given follow-up actually participated. A larger proportion of dropouts than nondropouts fell out of the sample because they could not be traced.

The questionnaire items related to dropouts varied with each follow-up. Some students identified themselves as dropouts in one follow-up and not in another. This could be an accurate response to the questionnaire items, if they would be considered a dropout under one item and not another. Or it could reflect inaccurate responses. An additional source of data is the transcripts; students could be identified as dropouts based on their transcripts, who never classified themselves as a dropout.

The multiple sources of data mean a dropout rate can be calculated in a variety of ways. Which item or items from which follow-up is used? Are transcript data used? How are inconsistent and missing data handled? The answers to these questions are a matter of judgement and depend in part on the type and purpose of the analysis. There is no single correct way to do it, which explains why multiple rates are quoted from HS&B.

The dropout (and return) variable used in the analysis conducted for this report was developed by Teresita Chan Kopka.[31] It is based on student self-reports of high school completion in the third follow-up (variable TY18), except for sample members for whom there was not a valid code on that variable, in which case other information was used to assign the individual to a dropout status. Further details about the construction of the variable can be found in Kopka's tabulation. Other dropout measures using second or third follow-up data have yielded estimates of dropout rates[32] that do not differ significantly from the 17.3 percent based on the measure utilized in this report.

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[30] Peng, op. cit.

[31] Kopka, op. cit.

There are several limitations with the third follow-up variable for the purposes of calculating dropout and return rates. However, the net effect on these rates is unclear. On the one hand, both dropout and return rates may be overstated because students who finished high school after June 1982, but never dropped out may be classified as dropouts. On the other hand, dropout and return rates may be understated if dropouts who had returned and completed by June 1982 are not counted as dropouts.

It is not clear how either group of students might have classified themselves on the third follow-up item. For the late completers, there was no appropriate category in the question -- their choices were to say that they had completed with the class or that they had dropped out and completed high school later. It is very difficult to identify continuously enrolled late completers in HS&B because there is no continuous record of enrollment after the transcripts were collected in summer/fall 1982. For dropouts who completed by June 1982, they might have classified themselves either as having graduated on time or having dropped out and completed by later obtaining a diploma or GED.

HS&B collected data on many variables several times, including many of the factors associated with dropping out that are discussed in this report. Data from the base year rather than from the first follow-up on variables such as SES, grades, school program, and disciplinary problems were utilized for two reasons. The major reason was to ensure that data from the same period were used for dropouts and nondropouts. If first follow-up data were utilized for school variables, then data from the base year would have to be substituted for those who were not in school at the time of the first follow-up. In addition, using base year data ensured that data for the associated factors represented a time period prior to dropping out or the risk of dropping out for everyone. According to the logic of survey analysis, one factor cannot have contributed to the occurrence of another, if that contributing factor took place after the event.

The one exception to the consistent use of base year data was in the measurement of SES. In HS&B, SES is measured through a composite variable, based on five elements: father's education, mother's education, father's occupation, family income, and material possessions in the home (typewriter, electric dishwasher, number of vehicles). It is the simple average of the non-missing components after each component is standardized.

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[32] An estimated dropout rate of 16.6 percent is reported in U.S. Department of Education, National Center for Education Statistics, High School and Beyond: A Descriptive Summary of 1980 Sophomores: Six Years Later, CS 88-405, Washington, D.C.: June 1988 and 16.8 percent based on the composite variable, HISDIPLOM, is reported in U.S. Department of Education, National Center for Education Statistics, High School and Beyond 1980 Sophomore Cohort Third Follow-up (1986), Data User's Manual, Volume I, CS 87-408m, Washington, D.C.: October 1987.

For base year SES, about 33 percent (weighted) of the dropouts were missing valid codes on the SES composite. Where there was a valid SES composite on the first follow-up, that was substituted for a missing base year SES composite. This reduced to 27 percent (weighted) the proportion of dropouts with missing SES. Because of the crucial nature of this variable and the high percent missing, the missing category was included in all the tables utilizing the SES variable.

Other variables with high proportions of missing data for dropouts (weighted) include home language background (26 percent), family structure (27 percent), school discipline problems in the past year (35 percent), ever suspended or on probation from school (35 percent), and ever in trouble with the law (34 percent). Caution should be used in drawing generalizations based on these variables with high nonresponse rates for dropouts.

For all these variables, the proportion of weighted cases with missing data was much lower for the sample as a whole than for dropouts. In addition, the proportion of unweighted dropouts not responding to these items was much lower (7 to 18 percent) than the proportion of weighted dropouts. Some dropouts with very high sample weights did not respond to these items, which is why the proportion of missing data was two to more than three times higher for the weighted cases as for the unweighted. One example of this phenomenon is the proportion of dropouts with unknown SES. Among the unweighted dropout cases in the sample, 12.6 percent were missing a valid SES code as compared to 27.5 percent of the weighted dropout cases.

Accuracy of Estimates

The estimates in this report are derived from samples and are subject to two broad classes of error -- sampling and nonsampling error. Sampling errors occur because the data are collected from a sample of a population rather from the entire population. Estimates based on a sample will differ somewhat from the values that would have been obtained from an universe survey using the same instruments, instructions, and procedures. Nonsampling errors come from a variety of sources and affect all types of surveys, universe as well as sample surveys. Examples of sources of nonsampling error include design, reporting, and processing errors and errors due to nonresponse. The effects of nonsampling errors are more difficult to evaluate than those that result from sampling variability. As much as possible, procedures are built into surveys in order to minimize nonsampling errors.

The standard error is a measure of sampling variability. It provides a specific interval, with a stated degree of confidence, within which an estimate would occur if a complete census were taken. The probability that a complete census would differ from the sample by less than the standard error are about 68 out of 100. The chances that the difference would be less than 1.65 times the standard error are about 90 out of 100; that the difference would be less than 1.96 the standard error, about 95 out of 100.

Standard errors for percentages and number of persons based on CPS data were calculated using the following formulas, recommended by the Bureau of the Census:[33]

Percentage

$$\text{s.e.} = \sqrt{\frac{(b)(p)(100 - p)}{N}},$$

where p = the percentage ($0 \leq p \geq 100$),
N = the population on which the percentage is based, and
b = 2,312 for total or white population 14 to 34 years old
2,600 for black or Hispanic population 14 to 34.

Number of persons

$$\text{s.e.} = \sqrt{(bx)\left(1 - \frac{x}{T}\right)},$$

where x = the number of persons (i.e., dropouts),
T = population in the category (i.e., blacks 16 to 24), and
b = as above.

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[33] U.S. Department of Commerce, Bureau of the Census, "School Enrollment -- Social and Economic Characteristics of Students: October 1986," Current Population Reports, P-20, 429, pp. 99-100, 103.

The HS&B sample is not a simple random sample. Students were selected within schools grouped by strata. Sampling rates for schools varied by strata. Simple random sample techniques for estimating standard errors could underestimate the true standard errors. To overcome this problem, the HS&B standard errors were calculated using Taylor residual techniques.

Standard errors for many of the estimates in the tables appear in Appendix A.

Methodology and Statistical Procedures

The comparisons in the text have all been tested for statistical significance to ensure that the differences are larger than those that might be expected due to sampling variation. Two types of comparisons have been made in the text.

Differences in two estimated percentages. The Student's t statistic can be used to test the likelihood that the differences between two percentages are larger than would be expected by sampling error.

$$t = \frac{p_1 - p_2}{\sqrt{S.E._{p_1}^2 + S.E._{p_2}^2}}$$

where p_1 and p_2 = the two percentages being compared, and

$S.E._{p_1}$ and $S.E._{p_2}$ = the standard errors of the percentages.

As the number of comparisons on the same set of data increases, the likelihood that the t value for at least one of the comparisons will exceed 1.96 simply due to sampling error increases. For a single comparison, there is a five percent chance that the t value will exceed 1.96 due to sampling error. For five tests, the risk of getting at least one t value that high increases to 23 percent and for 20 comparisons, 64 percent.

One way to compensate for this danger when making multiple comparisons is to adjust the alpha level to take into account the number of comparisons being made. For example, rather than establishing an alpha level of .05 for a single comparison, the alpha level is set to ensure that the likelihood that the t value for any of the comparisons is less than .05. This Bonferroni adjustment is calculated by taking the desired alpha level and dividing by the number of possible comparisons, based on the variable(s) being compared. The t value corresponding to the revised, lower alpha level must be exceeded in order for any of the comparisons to be considered significant. For example, to test for differences in dropout rates between whites, blacks, and Hispanics, the following steps would be involved:

1. Establish the number of comparisons -- in this case three (whites and blacks; whites and Hispanics; and blacks and Hispanics). The number of two-way comparisons that can be made equals $[(n)(n-1)]/2$, where n is the number of variable categories. Thus, with three categories the number of possible comparisons is $[(3)(2)]/2 = 3$.

2. Divide the desired alpha level, .05, by the number of comparisons, e.g. three, to obtain the new alpha level ($.05/3 = .0133$).

3. Consult a table of t statistics (or the standard normal table for z values if the N is large) to find the t value that corresponds to that alpha (t = 2.39 for alpha =.0133).

All comparisons in this report were tested using the Bonferroni adjustment for the t tests. Where categories of two variables were involved, the number of comparisons used to make the Bonferroni adjustment was based on the relationship(s) being tested. For example, in the chapter on cohort rates there is a table that displays dropout rates by race/ethnicity by sex. The concern in this table is the relationship between sex and dropout rates within different racial/ethnic categories. Therefore, the appropriate number of comparisons to use in the adjustment of the alpha level is the number of racial/ethnic categories, i.e., one comparison (between the two sexes) within each racial/ethnic category.

Trends over time. Regression analysis was used to test for trends in the CPS time series data. This was done using the regression capability of LOTUS 1-2-3, taking the standard errors of the estimates into account. For some analyses, in addition to testing for a relationship between time and the dropout rate, an interaction effect between time and sex was also tested for by entering sex as a dummy variable into the regression. The regression coefficients for time and sex were tested to determine that they were significant. All statements about trends are statistically significant at the .05 level.

Goals for Education

CHALLENGE 2000

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There need be no mystery about the quality of education in the year 2000. Education in the year 2000 depends upon our actions in each of the todays and tomorrows until the end of this century. What we do and do not do, not some uncontrollable chain of events, will determine the fate of education.

While "any road will do if you don't care where you are going," we do care where we are going in education. We should see that the educational reforms of the 1980s lead to significant improvements throughout the 1990s and into the twenty-first century. For this to happen we need goals for where we want to be in education and mileposts to indicate our progress in getting there. Where we *should* want to be, what we expect in the quality of our educational programs, has changed dramatically. Doing a bit better than last year is not good enough in a society where the terms "international" and "global" take on new, and very real, meanings daily.

SREB's Commission for Educational Quality has put forward twelve specific goals for education and "indicators of progress" toward reaching these goals. Certainly these twelve are not the only important goals. Priorities may differ from state to state. But if we are to instill public confidence and sustain the momentum for improving education, I believe that every state must set goals for education, measure progress in achieving them, report results to the public in clear terms, and make a strong case for the support necessary to be successful. That is SREB's aim in publishing and promoting *Goals for Education* .
CHALLENGE 2000

Winfred L. Godwin
President

Goals for Education

CHALLENGE 2000

Why is it important that states set educational goals? Nearly all SREB states are implementing new standards and programs to improve the quality of education. Since 1981 they have led the nation in doing so. Comprehensive improvement programs were approved in most SREB states while they were still being talked about in other parts of the country. The long-term results of these reforms will determine whether there is a better future with improved standards of living in SREB states.

But, few states appear to have set specific goals for results they expect these new educational standards and programs to produce. Educators and elected officials need to ask themselves and each other several questions:

- Have we shaped our educational reforms into a vision of what we expect to accomplish?
- Do we know with some certainty where we want our state's educational system to be by the year 2000?
- Do we have ways of knowing whether we are on track with our educational programs? Of knowing whether we are supporting them adequately?
- In short, does our state have specific educational goals and ways of knowing when we have successfully reached them or are making progress toward achieving them?

If state leaders ask these questions of themselves and others, and demand evidence to support answers, they may find that the answers are too often "no."

Why then are educational goals important? Simply put, **the citizens of any state are not likely to achieve more in education than they and their leaders expect and aim for.** Consider this. Between the mid-1970s and mid-1980s there was much emphasis on the importance of earning a high school diploma. But virtually no state had either reliable information about how many students were dropping out of school or a specific goal to increase the number and percentage of high school graduates. It is not surprising, therefore, that the percentage of young adults with a high school diploma changed by only one percent in 11 years. (Fortunately, that one percent was on the plus side as more black students completed high school.)

Significant improvements in education do not "just happen." They are planned, pursued, and evaluated. If the number of students graduating from high school increases appreciably or if there is a rise in the percentage of entering college students who are ready for college-level work, it will be because these matters are priorities.

Educational improvement in any state is a long-term proposition. Substantial and sustained public support is required. Setting and pursuing educational goals may be the best way to encourage and maintain this support. Attempting to rally support from the public with general claims that schools and colleges are working harder or doing better will not suffice. States without specific goals for the year 2000 may likely remember the 1980s "as the good old days in education." States with educational visions and goals specifically tied to these visions may remember the 1980s as the time they laid the groundwork for their continuing prosperity.

Educational goals should be concrete. They should be realistic, but present a challenge to reach beyond the present grasp. Goals should be measurable so that progress in meeting them can be checked. SREB states should seek to link their goals to national standards and benchmarks—especially for student learning and performance.

Goals will vary from state to state, but there will be many similarities. Goals should address the entire range of educational programs. Why? Because it is impossible to separate the question of the quality in a state's elementary and secondary schools and in its colleges. Goals should focus on student learning and on what it takes to produce satisfactory levels of student learning in schools and colleges.

Many SREB states face special problems in raising achievement and attainment to national levels. These states have disproportionate numbers of citizens from disadvantaged backgrounds, many of whom are blacks or Hispanics. Disparities in opportunities and outcomes are too prevalent in every state. Therefore, as states set goals for the education of the population in general, they should determine what these goals mean for minorities, create the special programs that may be needed, and track the degree of success for both majority and minority populations.

The need for higher levels of achievement for minorities is not simply a call for more basic skills instruction in the schools. The need to have more minorities participating in higher education is as great or even greater. Targets must be set for more minority students to attend college, to earn four-year degrees, and to pursue and earn graduate and first professional degrees. If we are to avoid drifting toward a two-tier society with one level well-educated, well off economically, and mostly white, and the other just the reverse, then minorities have to be represented in higher education to the same degree as they are in the schools.

THE YEAR 2000

We no longer view the year 2000 in some mystical fashion. The twenty-first century is just around the corner. We are much closer to the first day of the next century than to the day when the first step was taken on the moon. Dramatic changes are certain to occur in the remaining few years of this century. Who can forecast what research into artificial intelligence, superconductivity, and medical science will produce? But there are some relative certainties about the beginning of the twenty-first century.

By the year 2000 our nation's population will be "older." For the first time more than half of us will be over 35 years of age. Fewer of us will be under 25 years old. More will be over 65. As we move into the twenty-first century, this "aging of America" will have a profound effect on our social and governmental policies. More retirees will be relying on a relatively smaller work force. It may take more effort to gain support for public education because a smaller percentage of families will have school-age children.

By the year 2000 there will be more of us, but not a lot more. Half of the SREB states will grow as fast or faster than the nation—12 percent in 12 years—and half will grow at a slower rate.

By the year 2000 there will be more minority citizens in SREB states (blacks, Hispanics, and other minorities) and minority school children, but these increases will be dramatic in only a few states. If current trends prevail, minority students will continue to have lower levels of academic achievement, higher dropout rates, lower levels of literacy, and be less likely to enroll in college peparatory programs.

By the year 2000 there will be more youngsters in school in SREB states —about 10 percent more—but nearly half of this increase will be in three states (Florida, Texas, and Virginia). School enrollments in almost half of the SREB states may decline.

By the year 2000 there may be slightly fewer persons in college (5 percent or so fewer) if present trends continue. There will be one and a quarter million fewer traditional college-age young adults in the SREB states. Given present trends, black and Hispanic students will attend college at rates much less than what might be excepted if enrollments matched the percentage of black and Hispanic young adults in the total population.

By the year 2000 SREB states may not have closed the gap between the region and the nation in the percentage of their citizens with college degrees. Compounding this troubling estimate is the continuing disparity in the rates at which black, Hispanic, and white students are earning college degrees.

By the year 2000 the labor force will contain more non-white citizens, more females, and more immigrants. Well over 50 percent of the increase in the labor force will be made up of black, Hispanic, and other minority group members—groups currently underprepared for the higher skilled jobs.

By the year 2000 ten million new jobs are likely to have been created in the SREB states. Over 80 percent of the ten million jobs may require a high school education and, more than ever before, jobs will require some postsecondary education. There will be a sharp decline in the share of jobs that can be filled with individuals who have less than a high school education. The pay for these jobs will be much less than for those requiring a high school diploma or some college. States are already encountering the real—not theoretical—problem of a job market that requires more education and a work force composed of groups who have not fared well in our educational systems. Simply put, it is not clear that our educational systems are on schedule to produce the persons needed for the jobs of the twenty-first century.

By the year 2000, goods-producing industries will experience almost no change in employment; service-producing industries will account for nearly all new growth. Our national economy, and thereby our state economies, will be increasingly interrelated with global economies. Manufacturing employment will decline nationally, and only increase slightly in the SREB states. A growing share of the jobs in manufacturing will be made up of managerial, engineering, and related jobs. In the SREB states, about 400,000 farm jobs will disappear.

SETTING GOALS FOR EDUCATION TO CHANGE THE FUTURE

Several trends are virtual certainties—the population will be older and more ethnically diverse, so will the labor force, and there will be higher educational requirements for jobs that will be increasingly in the service sector of the economy.

Other predictions are not certainties; they can be altered in the decade ahead. Our concern is with educational trends that, when projected to the year 2000, yield an unacceptable future. If current situations prevail in the year 2000, too few children will be ready for the first grade or will graduate from high school. Not enough minority students will complete high school and college, and too few citizens will have a college degree.

How can this unacceptable future be altered? By setting and reaching educational goals, states can change these trends and literally change their future.

EDUCATIONAL GOALS FOR SREB STATES

"If excellence means anything at all it is a universal concept, [we must] be measured against the same criteria of excellence which are applied everywhere." That bold claim was controversial when made by the Southern Regional Education Board nearly three decades ago. Many who heard it were skeptical. Most SREB states were behind the nation economically and educationally. Their leaders were encouraged that better times were ahead, but doing a bit better this year than last year seemed a more realistic goal than meeting national standards.

Today, there is wide agreement that SREB states should strive for national standards. And some, particularly governors, assert that international standards are more appropriate now that the marketplace is increasingly global.

If SREB states are indeed determined to meet or exceed national standards in education by the year 2000, what kinds of goals must they set and reach? And what actions or conditions—what "indicators" of progress—will signal to citizens, educators, and government leaders movement toward meeting long-range educational goals?

BY THE YEAR 2000—
All children will be ready for the first grade.

Indicators of progress toward having all first-graders ready to begin schooling include—

- Increasing the percentage of "at risk" children served by pre-school and kindergarten programs to 100 percent by the year 2000;
- Using readiness assessments for all children prior to their beginning the first grade and providing appropriate developmental programs to meet individual needs;
- Establishing programs that help those children who are unprepared to begin academic work in the first grade in 100 percent of the districts.

Today not all children are ready to begin the first grade. Too many never catch up. Unless additional steps are taken, possibly one-third of the approximately one million children projected to be entering the first grade will not be ready to do so in the year 2000. Several years ago South Carolina found that more than one-third of its entering first-graders were not prepared to begin academic work. Perhaps not coincidentally, more than one-third of all students dropped out before graduating from high school. Today three-fourths of South Carolina's entering first-graders are ready, and those who are not get additional special help.

Pre-school and kindergarten programs are a wise investment to develop mental, social, and physical skills, especially for children from disadvantaged homes. First, the needs of pre-school children should be determined using formal and informal assessments, such as teacher observations, tests, health appraisals, and checklists of students' readiness skills. Teachers must be prepared for these pre-school programs, and more of them will be needed. Helping all children be ready for the first grade is not just a challenge for the educational system. The problems of "at risk" children and their parents are more than a school problem. Unless there is effective local coordination of health and social services linked to educational programs, all children will not be ready for the first grade in the year 2000.

BY THE YEAR 2000—

Student achievement for elementary and secondary students will be at national levels or higher.

Indicators of progress in raising student achievement to national levels, or higher, include—

- Establishing and publicizing specific student achievement goals by schools, districts, and states;
- Reporting of student achievement results by divisions such as quartiles—upper one-fourth, middle two-fourths, and lower one-fourth—to keep the focus on helping all students make progress;
- Reducing at the school, district, and state level the number of students whose achievement scores fall in the bottom one-fourth on national measures, and increasing the number of students who score in the higher categories;
- Raising steadily the percentages of students meeting academic standards set by schools, districts, and states at several grades throughout elementary and secondary schooling;
- Increasing the percentages of students meeting standards or making gains on national achievement tests (for example, raising to the national average or higher the percentage of students who read at the Adept level or write at the Adequate level on the National Assessment of Educational Progress);
- Narrowing by one-half the unacceptably large gaps in achievement of students from different racial and ethnic backgrounds (achievement should also be reported in ways that clearly show any existing disparities among students with different economic and geographic backgrounds so problems can be pinpointed);
- Increasing the percentage of high schools offering Advanced Placement courses for college credit to at least 60 percent and the percentage of students taking the Advanced Placement examinations to the national average or higher;
- Increasing the "passing" rate (score of 3 or above) on Advanced Placement examinations to the national average or higher.

It will be difficult for many states to achieve truly current national levels of student performance. Why is this so if nearly all states have student achievement scores that are already "at or above the national average" on many so-called national tests? When the weaknesses of these tests are corrected or lessened—weaknesses that have led to results showing nearly all states at or above average—and the revised National Assessment of Educational Progress provides new state and national measures of student achievement, the national averages will be more accurate indicators of student achievement across the country.

In addition to these more challenging national standards, there is a special problem, not to be underestimated, in achieving the goal of national levels of student performance. Specifically, we should confront the fact that children from disadvantaged homes tend to have lower academic achievement and the numbers of these students are increasing. This fact, as well as continuing nationwide efforts to raise student achievement, means that many SREB states will face the difficult task of increasing achievement so more students will meet higher national standards. The challenge to the SREB states is similar to swimming upstream against a strong current—very difficult, but essential if we are to survive.

Texas, for example, is one of a very few states to set a goal for student achievement (national norms by the year 2000). By the year 2000, minority students will account for more than one-half of all elementary and secondary students in Texas. A disproportionate number of minority students will be from disadvantaged homes. Texas must take this fact into account, and deal with it, to raise student achievement to national norms. So must other states.

If student achievement goals are to be set and reached, then student achievement must be measured. More widespread use of technology will be needed—technology that offers new ways of measuring student achievement and provides almost instantaneous results to students and teachers to improve teaching and learning. No single existing indicator, test, or standard provides an adequate measure of student achievement. Information from nationally normed tests, the proposed state-by-state version of the National Assessment of Educational Progress, the American College Test, the Scholastic Aptitude Test, and Advanced Placement tests can be used to describe how well students are doing compared to national results. State basic skills tests, end-of-course tests, and high school graduation tests can help raise student achievement by pinpointing problem areas.

Focusing on basic skills will not be enough. The key to SREB states reaching national achievement levels will be to help more students move to the mid and upper ranges of skill levels that show development of abilities in reasoning and problem-solving. For high school students this means that the courses they take are very important. Simply stated, students generally know much more about subjects they have studied. For example, when time is spent on subjects such as science in elementary school, their priority in the curriculum is evident. States can, and are, requiring students to take more courses to earn a high school diploma. The much more difficult task, however, is to see that students learn what is necessary from these courses.

If our society is to flourish, our young people must know how our nation's democracy works, and appreciate that they must be constructively involved.

To prosper in an increasingly competitive international economy, they will need to know much more than at present about other nations—their cultures, geography, and languages. As members of a labor force they must acquire attitudes that generate gains in productivity and quality.

Focusing on just the things that can be easily measured will not be enough. Most of life is not spent in school or in the workplace. Education should open our lives to the role and value of the arts to us as individuals and to our society. We should not underestimate how creativity can be encouraged and fostered by the arts. Our educational systems are not the only shapers of beliefs, attitudes, and values, but they play a major role. Goal setting in these areas is not easy; the issues are complex and the options many, but a state that values the quality of life on an equal plane with the productivity of its workers will seek to set goals here as well.

BY THE YEAR 2000—

The school dropout rate will be reduced by one-half.

Indicators of progress toward reducing the school dropout rate by one-half from current levels include—

- Establishing a system to collect and report state dropout data by race and gender and by schools and districts according to a common definition;
- Developing statewide and local plans for reducing dropouts—plans that spell out what schools and governmental agencies will do and that provide incentives for making substantial progress;
- Providing funding to develop programs that identify and help at-risk students, beginning in early grades and continuing through high school completion;
- Reducing the number of chronically absent students by 25 percent and raising the overall student attendance rate to 95 percent, or higher;
- Increasing the percentage of students who complete high school programs, especially the percentage receiving high school diplomas (for example, 85 percent or more of the entering ninth-graders);
- Comparing student performance of high school graduates to comparable groups at the national level to maintain the integrity of the high school diploma.

If we could wave a magic wand over this year's first-graders it would surely be one that would ensure all of them a good high school education and the opportunity for more education beyond high school. But we know it does not work that way. Present trends show that too many of our youngsters will become adults without having completed high school and having earned a diploma. They will be left behind unless states more vigorously attack the problems of school dropouts and adult literacy. Currently, over 40 percent of those who do not complete high school programs earn an equivalency certificate through the General Educational Development (GED) program. While the GED is not the preferred option for younger persons, it is an alternative for adults who have left high school. (Studies suggest that students earning a GED do not do as well in employment or in higher education as high school graduates.)

If one-third of a school's students were absent for several days due to a flu outbreak, an emergency would likely be declared. The school would close until the epidemic subsided. Yet for year after year we have graduated senior high school classes in which one-third, and sometimes more, of the original class was missing. And all too often we have accepted this fact as business-as-usual. The good news is not that there has been a dramatic upsurge in the high school graduation rate, but that educational and governmental leaders seem determined not to accept the present situation any longer.

No educational problem is being discussed more, but still, few states have adequate information about dropouts. Assuming that the estimated figures on school dropouts are even partially correct, the current determination to reduce the problem is well-founded.

Ten SREB states have dropout rates above the national average. In six of these, more than one-third of entering ninth-graders apparently do not graduate; black students are more likely to drop out than white students—twice as likely as white students in some districts; only about one-half of the Hispanic students in this country graduate from high school; and in total numbers, more white students drop out of school each year than do either black or Hispanic students.

If schools could solve the dropout problem by themselves, they would have done so. The fact that they have not may say many things. It certainly says that the dropout problem is bigger than the schools, and far bigger than a special program set aside in one "corner" of the school. Schools are the most important group in reducing dropouts. But local and state leaders may have to insist on—and sometimes require—coordination of services with other governmental agencies that deal with children and families as well as other groups—business and industry, for example. For, if these groups are not part of the dropout reduction efforts, the efforts are likely to fail.

BY THE YEAR 2000—

90 percent of adults will have a high school diploma or equivalency.

Indicators of progress toward increasing the percentage of adults age 25 and over with a high school diploma or equivalency include—

- Increasing to 50 percent or higher the percentage of school dropouts who enroll in and complete the General Educational Development program—for black young adults, this will mean doubling the number who complete the program after enrolling;
- Using assessments results, such as the National Assessment of Educational Progress Literacy Assessment, with young adults to determine the skills and knowledge that are being gained (or not gained);
- Increasing dramatically the number of employees participating in business-sponsored "learn and earn" programs to complete a high school equivalency.

Even if states reduce the dropout rate by one-half, there will be over 10 million adults in the SREB region who have not completed high school in the year 2000.

While many young adults earn an equivalency certificate, few adults over the age of 40 seek to earn a GED. Therefore, states must concentrate most of their efforts on younger adults, more of whom must be motivated to earn a GED. For example, only two of ten black citizens who enroll in a GED program complete it. Business leaders, in small and large companies, may play a major role with incentives or requirements that employees "learn and earn." Workplace literacy partnerships sponsored by business, education, and government may hold the most promise for motivating young adults.

Measuring the attainment and achievement levels of adults at around the age of 25 can show how young adults in the region are faring compared to the nation. The 1986 National Assessment of Educational Progress Profile of Young Adults revealed that the country does have a literacy problem among young adults, not an "illiteracy" problem—"95 percent can read and understand the printed word, but in terms of tomorrow's need there is cause for concern: Only a small percentage can understand complex material."

BY THE YEAR 2000—

4 of every 5 students entering college will be ready to begin college-level work.

Indicators of progress in preparing more students to be ready for college-level work include—

- Establishing standards that include a core of required academic high school courses for admission into 4-year colleges and universities;
- Increasing the percentage of students taking algebra 1 by grade 10, at least to the percentage of graduates who enter postsecondary programs (with special emphasis on getting more minority students to complete algebra);
- Increasing the percentage of high school students enrolled in an academic or college preparatory high school track to equal or exceed the percentage of students going on to academic postsecondary programs;
- Establishing in every institution of higher education appropriate standards for beginning college-level study and assessments to determine if students are prepared to begin this degree-credit study;
- Establishing policies that require successful completion of non-credit remedial education courses for students not meeting degree-credit standards and continuous evaluations of the effectiveness of remedial education programs for students from different backgrounds and levels of preparation for college.

SREB states will continue to lag behind the nation in college enrollment and completion unless recent actions by schools and colleges are continued and new efforts are put into place. Raising high school graduation standards, special high school diplomas for college-bound students, and admission standards that require a solid academic core of subjects are actions that have been taken by SREB states in the 1980s. End-of-course testing for high school courses and the use of college placement tests to provide high school students with information on meeting standards for college are promising, but are underway in only a few SREB states. While some colleges and universities are providing high schools with limited information on student performance during the freshman year, additional joint cooperation by schools and colleges is needed to develop more specific and useful information so that high schools can improve counseling and instruction. A noteworthy school-college effort is the SREB/Kenan project in which colleges and schools begin in the eighth grade to encourage black students to prepare for college. The project provides students with support and counseling to take, and succeed in, needed high school courses. Faculty in schools and colleges should work jointly to develop high school curricula that are meaningful and provide students with the necessary skills to enter a postsecondary academic or vocational program.

The definition by colleges and universities of what is meant by college-level work will ensure that access to higher education is to quality programs—necessary if higher education is to be a significant economic and social force. Remedial education in colleges and universities is now needed by about one-third of the students in states that have collegiate placement standards. If states are to increase the access to quality collegiate education, especially for minorities and adult citizens, colleges must offer some remedial education for years to come. But it is reasonable to expect that in future years the school improvement efforts and college actions will mean fewer first-time college students who will need remedial education. The remedial education programs that are provided by colleges should be more carefully evaluated than are most such programs today, or the support for them is likely to drop sharply.

BY THE YEAR 2000—

Significant gains will be achieved in the mathematics, sciences, and communications competencies of vocational education students.

Indicators of progress in improving basic competencies of students who complete secondary vocational education programs include—

- Raising the basic reading, mathematics, and science competencies of students who complete secondary vocational education programs to national averages or higher as measured by programs such as the National Assessment of Educational Progress (for example, increase the percentage of students reading at the Adept or higher level on the National Assessment or demonstrating the mathematics skills to solve moderately complex procedures);

- Establishing more precise, demanding, and measurable basic competency, placement, and technical objectives for vocational students;

- **Establishing targets for the percentage of students who complete vocational programs and are successfully placed in related jobs, the military, or pursue further education (for example, a state target of 80 percent or more may be a desirable goal);**
- Increasing to the national average (now 50 percent) the percentage of students who complete three or more units of vocational education programs and continue their education within one year after high school graduation;
- Doubling the percentage of vocational education students who take one or more college preparatory mathematics courses, one or more college preparatory science courses, or courses specially designed to teach similar content through an applied process;
- Evaluating and revising the ways that vocational education teachers are prepared, licensed, and updated, with the emphasis on improving their academic competencies and their skills for teaching applied courses.

Basic academic competencies in communication, computation, and applied sciences are fundamental to preparing young people for further learning, as well as for immediate employment upon high school graduation. Vocational education programs that place a high priority on developing basic academic skills can help produce high school graduates with the necessary skills for further learning—on the job or in formal education. There are too few of these programs today. Students in vocational education programs are more likely to have below average scores on basic competency measures than are students in the general or college preparatory curriculum. Vocational education students take on average only three fewer academic courses than do other high school students. However, the academic courses they do take are likely to be in the general curriculum, not in the college preparatory curriculum, and provide no in-depth study of any subjects.

Steps are being taken to raise the basic competencies of vocational education students by increasing the percentage who take higher level mathematics and science courses. Thirteen states in an SREB consortium are testing at more than 30 pilot sites new vocational programs that make high level communication, mathematics, and science instruction an important part of vocational studies. The SREB-Vocational Education pilot sites will: prescribe for each student a specific program of study that includes higher level mathematics and science courses; develop new ways to teach higher level academic skills through applied courses; provide staff development for teachers; and increase the amount of time vocational teachers devote to teaching basic competencies. These new programs will strengthen the ties between academic and vocational instruction to expand students' opportunities for employment and postsecondary education.

Similarly, additional efforts are needed to assure that vocational teachers spend more time teaching related basic competencies in an occupational context. Students in vocational classes spend 60 percent of their time using basic skills—

reading, speaking, listening, writing, and mathematics. However, today vocational teachers on average spend only about three percent of their time explicitly teaching basic competencies. More emphasis on teaching basic competencies in vocational instruction and external assessments of competency can help states ensure that vocational education students meet business- and industry-established occupational and basic competency standards.

Nationally, about 50 percent of the high school students who take at least three units of vocational education continue their education within one year after high school graduation. In no SREB state do vocational students continue their education at this rate. More vocational students will need further study after high school if states are to have citizens who can compete for and succeed in the jobs of the twenty-first century.

BY THE YEAR 2000—

The percentage of adults who have attended college or earned two-year, four-year, and graduate degrees will be at the national averages or higher.

Indicators of progress to increase levels of collegiate education in the SREB region include—

- Narrowing steadily the gaps among citizens of different races in their college attendance and graduation rates (for example, increasing the college attendance rates for black and Hispanic students by 30 percent may be a state goal);
- Increasing to national averages or higher the rates at which new high school graduates and adults enroll in higher education (for example, increasing the overall college participation rate by 20 percent by the year 2000 may be a goal for many states);
- Increasing to the national averages or higher the percentage of students who each year earn two-year, four-year, and graduate degrees (for example, many states will need a 20 percent increase by the beginning of the next century);
- Increasing the completion rate in two-year associate degree programs above the current average of 20 percent for students entering these programs;
- Increasing the percentage of two-year college students who go on to attend senior institutions, currently about 20 percent, (states will need effective transfer agreements between two-year and four-year institutions and programs to raise the numbers of minority students who transfer to senior institutions);
- Setting quantitative and qualitative targets for graduate enrollments, with consideration of the proportion of minorities and women enrolled, and creating conditions for growth in selected fields.

Citizens of SREB states should have the same level of collegiate education as U.S. citizens generally. Until this is achieved, a state is likely to have great difficulty competing successfully in national and international markets. Also, it is unlikely that its citizens can enjoy the same level of cultural and social benefits that accrue in those states having high percentages of college-educated citizens.

In 1950 only one of sixteen citizens in the SREB region had earned a college degree, and only one of seven had attended college at all. Today one of seven of all adults over the age of 25 has a baccalaureate degree or higher, and nearly one of three has attended college.

Dramatic progress? Yes. So dramatic one might forget that making a college education available to all who can benefit from it is still a relatively new, almost uniquely American idea. Just how new an idea is shown by the fact that in many SREB states more than half of this year's graduates are the first members of their families to earn a college degree.

By all valid measures, the SREB region continues to trail the nation in the levels of collegiate education for all of its citizens—including white, black, and Hispanic. Furthermore, based on current population and college enrollment patterns, the collegiate education gap between the SREB region and the nation may be just as large by the year 2000. The challenge, therefore, is for states to have a greater share of their citizens prepared for college, enrolled in college, and graduated.

BY THE YEAR 2000—

The quality and effectiveness of all colleges and universities will be regularly assessed, with particular emphasis on the performance of undergraduate students.

Indicators of progress and targets for assessing quality and effectiveness can be developed by each state to reflect its own needs and aspirations, but each state should consider—

- Establishing standards for students to successfully complete remedial/developmental courses; all institutions will adopt these standards or more rigorous ones;
- Requiring institutional goals and standards for the proportion of students successfully passing state and national examinations for licensure or certification;
- Insisting that each institution evaluate the effectiveness of its core curriculum in providing a sound general education for students during the first two years of college;
- Insisting that every institution or system of institutions establish graduation and retention goals—with special attention to minority and disadvantaged students;
- Establishing indicators and achievement targets for graduate programs and state investments in research and development efforts.

Improving access alone is not enough; the access must be to quality educational programs. Our nation's views about quality will undoubtedly change between now and the year 2000, reflecting the increased knowledge demands of the twenty-first century and the continuing use of international standards to measure where we are.

Each state should spell out the kinds of assessment systems it requires. These assessment systems should take into account the diversity and differences in mission and scope represented in a state's colleges. At the same time the state has a responsibility, indeed an obligation, to assert certain minimum expectations for all colleges and universities, on the one hand, and, on the other, to provide ways to identify and reward superlative performance.

Assessment systems should place heavy, but not exclusive, emphasis on student learning and performance outcomes. SREB has consistently supported this emphasis and the national organization of State Higher Education Executive Officers has endorsed a general program for assessing institutional effectiveness.

Among the sure bets for the year 2000, and beyond, is the need to generate new ideas in science and technology and to convert knowledge to new products and services. To do that, graduate programs, particularly those in the sciences, engineering, and mathematics, must be strong. The need for improvement in the pre-school and K-12 programs and undergraduate education notwithstanding, we cannot leave out of the equation the need for higher quality at the graduate level.

State systems for assessing institutional effectiveness should make the goals of the institutions widely known and report to the public the progress made in achieving these goals.

BY THE YEAR 2000—

All institutions that prepare teachers will have effective teacher education programs that place primary emphasis on the knowledge and performance of graduates.

Indicators of progress toward effective teacher education programs that emphasize knowledge and performance of graduates include—

- Adopting as state policy a continuing state-level emphasis on improving teacher preparation programs that includes college and university presidents and the arts and sciences and education faculty of all colleges and universities in periodic examination of teacher preparation programs;
- Instituting teacher licensure and program approval standards based primarily on knowledge and performance of graduates;
- Evaluating different approaches to prepare teachers, such as alternative certification, four-year undergraduate, and extended programs, based primarily on performance of graduates and of their students;

- Reducing by one-half the percentage of graduates not meeting initial teacher licensure standards;
- Increasing threefold the number of minorities graduating from programs to prepare teachers—this means an annual increase of approximately 20 percent each year to the year 2000;
- Improving the performance of beginning and veteran teachers according to assessments of principals and veteran teachers;
- Maintaining or exceeding the national average in the proportion of teachers qualifying for certification compared to the number who apply when national board certification is established.

Teachers should be able to help all students learn, and they should be accountable for results. Colleges and universities are more important in helping teachers be successful than is evident from the current level of top administrative and faculty interest in programs to prepare teachers on most campuses. As schools focus more on student learning, school accountability, and school-site management, with more decision making by teachers, principals, and parents, colleges and universities should likewise rethink their roles. College and university programs to prepare teachers should provide solid grounding in liberal arts, depth of study in a discipline, and a central core of education courses based on the best research. With these tools teachers can make better decisions about teaching and instruction. Experiences in the schools for prospective teachers should be joint school-college efforts with funding provided accordingly. States will see more school-college projects—and more effective ones—if collegiate funding is not based overwhelmingly on enrollment and if colleges are more flexible about faculty pay and promotion policies to reward cooperative efforts with schools.

More minority teachers are needed, but there is not enough evidence that states are seeking to reverse the declining number of minority teachers at a time when minority students are increasing. The trends show clearly that incentives for prospective teachers and institutions will be required if there is to be any significant increase in the numbers of minority teacher education graduates. Similarly, too few teachers are prepared to help "at risk" students learn or to teach in urban settings. Attracting and preparing persons to teach, especially in areas such as science, mathematics, and special education, continues to be a concern. Many SREB states are recruiting large numbers of teachers from other states (Florida, for example, reports about 45 to 50 percent of newly hired teachers come from out of state).

State mandates alone are not sufficient to prompt campus faculty and administrators to make substantive curricular changes. Successful change in what and how future teachers are taught requires involvement by an institution's top-level faculty and administrative leaders. Change will take time, and it will involve conflict. North Carolina and Virginia are in the midst of state-mandated changes to require an undergraduate liberal arts major for all teachers within four-year programs. Texas and Tennessee have similar initiatives. Creative academic leaders are using the process as an opportunity to rethink programs and involve collegiate arts and sciences and education faculty along with teachers and administrators from schools. Because policy decisions go beyond campuses and affect quality, cost, effectiveness, and supply of teachers, statewide efforts should provide general direction but call for campuses to develop the changes.

BY THE YEAR 2000—
All states and localities will have schools with improved performance and productivity demonstrated by results.

Indicators of progress toward improved performance and productivity of schools include—

- Establishing school standards and rewards based primarily on school outcomes, such as student achievement, attendance, and assessments of students' readiness for postsecondary education and employment;
- Focusing on school-site results and rewarding schools for outcomes;
- Preparing school board members, superintendents, principals, and teachers to establish goals and operate results-oriented accountability systems;
- Supporting programs in all districts that help principals and teachers increase the involvement of parents and the community in each school;
- Increasing by 100 percent school-business partnerships.

State school board, local school board, and individual school goals are often not clearly linked with well-defined roles for each. By using performance and productivity as major criteria in establishing goals and measuring progress, states, districts, and schools can become more effective. State and local accountability systems that focus on results allow flexibility in the ways for districts and schools to produce these results.

The school is the site for improving education. Successful school-based management will require information on student, teacher, and school performance to ensure that goals are met. Local school-based councils jointly involving teachers, principals, parents, business and community leaders will be needed. Training will be required for all—superintendents, principals, school boards, and teachers—to develop goals, focus on results, and implement new programs. High-performing schools might be encouraged by less regulation at state and local levels. Increasing the use of school-site management that focuses on outcomes allows more school-level decision making.

School principals often are not selected for their instructional leadership skills or prepared to help lead instructional change and provide the momentum and atmosphere for growth among teachers and students. This is not necessarily their fault. For years states have certified persons to be principals if they merely accumulated a series of college courses. The courses did not have to be linked to the knowledge and skills associated with effective school principals. This whole process is beginning to change in many states as certification, selection, evaluation, and rewards for principals now focus more on performance.

Strong school/community ties are vital. Increasingly, metropolitan and suburban area teachers and principals often are not a part of a traditional "school community." This situation requires special efforts on their parts to build community support. Teachers and principals now face much different parental situations—large numbers of families are headed by only one parent or both parents are employed full-time. It is more difficult now, and more important than ever, to involve many of these parents in the schooling of their children. Simple public relations schemes or twice a year back-to-school nights are not sufficient. Demonstrating that the community's well-being is in fact linked to education can serve to stimulate more business/school efforts.

BY THE YEAR 2000—

Salaries for teachers and faculty will be competitive in the marketplace, will reach important benchmarks, and will be linked to performance measures and standards.

Indicators of progress toward competitive teacher and faculty salaries include—

- Agreeing at the state level on appropriate salary goals for teachers and faculty and on a schedule for meeting these goals;
- Providing pay plans for teachers and faculty that reward outstanding performance, expanded responsibilities, or expertise in critical areas (for example, allocation of a set percentage of salary funds to be awarded for performance, expanded responsibilities, or to persons in critical shortage fields);
- Establishing a system to inform the governor, legislators, and citizens about the present and projected supply and demand for teachers and faculty and the progress made in achieving compensation goals for them;
- Conducting periodic reviews of the areas of expertise, gender, and race of persons who are attracted to teacher education programs, who graduate, and who are employed as beginning teachers (such reviews should help guide policies about adequate compensation);
- Increasing numbers of teachers and faculty with higher performance evaluations who choose to remain in the classroom.

Since 1981 more than half of the 15 SREB states have increased teachers' salaries at the national rate. Never before in this century has that happened.

Increased salaries make a highly visible and symbolic statement about the intent and determination of states to improve educational quality. But increasing salaries for teachers and faculty is a "big ticket" budget item for states and localities. For example, a 5 percent pay raise for teachers and faculty in Florida requires nearly $200 million. For the entire SREB region, a 5 percent raise requires more than one and a quarter billion new dollars. And a 5 percent raise marks no great gain in a given state as compared to salaries in the private sector or to those for teachers and faculty in other states. In many states significant annual pay raises for several years may be needed to reach an adequate level of compensation.

Most states need more systematic ways of setting benchmarks for adequate compensation for teachers and faculty. States may arrive at different definitions of adequate compensation. For faculty, states may decide that salaries must be competitive with those for faculty at similar institutions in other states or with regional or national benchmarks.

For teachers, states may determine that compensation must be competitive with selected occupations or with compensation of teachers in nearby states or in the nation at large. Salaries for teaching positions in shortage areas may have to reflect the market realities and be higher to attract persons to these positions. State and district school leaders should be sure that hiring and licensure practices promote, not hinder, an open market. In developing benchmarks, leaders should face squarely two questions:

- Are sufficient numbers of college graduates with average or above grades and appropriate credentials being attracted to teaching?
- Are most of the teachers who are identified as the most effective in evaluations remaining in the classroom for more than a few years?

When answers to both questions are "yes," then states can claim that compensation and working conditions for teachers are adequate.

There is substantial evidence that public leaders see increased salaries as a two-way street, and one side of the street is performance and accountability. For teachers' salaries this is particularly evident. In general, the SREB states that have raised teachers' salaries the most in the 1980s have linked higher pay to increased standards and performance. Career ladder and other pay-for-performance programs are one of the most obvious links, but there are also new standards for certification, higher standards to enter teacher preparation programs, internship and beginning teacher programs, more and better classroom evaluations, and more frequent and rigorous re-certification.

Collegiate faculty are generally assumed to be in a situation where merit evaluations and peer judgment play a major role in determining promotions and salary increases. Faculty in SREB states have not been subject to the same call from public leaders for increased accountability, and since 1981, in 12 of 15 SREB states their pay increases—at least the percentage of increases—have been lower than those for teachers.

BY THE YEAR 2000—

States will maintain or increase the proportion of state tax dollars for schools and colleges while emphasizing funding aimed at raising quality and productivity.

Indicators of progress toward maintaining or increasing the proportion of state funding for schools and colleges while emphasizing funding aimed at raising quality and productivity include—

- Agreeing at the state level on funding plans for schools and colleges that emphasize raising quality and productivity (for example, state, campus, and district leaders could earmark a specified budget percentage for special incentive awards for quality improvement);
- Providing annual financial statements to governors, legislators, and citizens on the state's success in implementing funding plans for education (statements should include "constant dollar" and percentage measures that communicate clearly);
- Evaluating the effectiveness of selected school and collegiate programs and linking the results to funding decisions;
- Establishing a state competitive grant process that assigns dollars where they will have the biggest impact on promoting specific initiatives (for example, university basic and applied research, effective school remediation programs, and dropout prevention programs).

SREB states unquestionably led the educational reform movement that began in the early 1980s. New programs, higher standards, and proposals to improve existing programs were the norm in most SREB states by 1984. Not all, but most of these programs cost more money. No state passed a comprehensive educational improvement act without approving a companion funding bill to begin the new plan. In the 1980s schools' budgets have generally fared better than those for colleges. For example, the percentage and absolute increases in teachers' salaries in most SREB states have been greater than those for collegiate faculty.

States with new educational improvement programs increased the share of state and local dollars going to education. Some states did this by raising taxes, others by earmarking for education a larger share of tax dollars from economic growth. In many states more than 100 million new dollars were designated for education in the first year of the new programs, with much of this going for higher salaries. But the litmus test for education's priority standing occurs in the state budget process every time the legislature meets.

In the SREB region a change of only one percent in how state tax dollars are spent means a shift of $750 million. State budgets are a bit like aircraft carriers. They are not given to sudden changes in direction, but they can, and do, change. Higher education, for example, receives a smaller share of the budgets in 12 of the 15 SREB states than it did earlier in the 1980s. If higher education in each of the SREB states were at its highest 1980s priority level, $600 million more would be appropriated annually—enough to move faculty salaries in the region to the national average or higher. For an individual state, the real test of the resolve of its leaders comes in making the dollars available to bolster education. In Georgia, for example, the year after passage of the Quality Basic Education Act, the governor recommended that nearly two of every three new state tax dollars go to education. Mississippi took similar action in 1988 to dramatically raise the state's support of its schools and universities.

Two very basic facts are important for SREB states to keep in mind in judging their commitment to improving education. First, many new educational improvement efforts are underway and almost all are additions to existing state efforts. Second, SREB states have trailed the nation in several measures of financial investment in education. Therefore, it is difficult to imagine that in the next several years an SREB state committed to educational improvement could spend a smaller share of its budget for education. Simply stated, given the economic realities, it is unlikely that states can spend proportionately less to do more in education.

But it is also unlikely that state officials will continue to support exceptional funding increases for schools and colleges unless this funding is linked to raising quality and productivity. Funding trends in higher education already show this. New dollars for higher education in the 1980s, other than those for faculty salary increases which have been relatively modest in most SREB states, are going for specific purposes—primarily for centers of excellence, endowed chairs, targeted research, and instructional equipment. A similar trend is emerging for the schools. Teacher salary increases have accounted for much of their new funding, with most other new dollars earmarked for teacher and school incentives, dropout prevention, and other specific efforts.

The success of our nation's educational system is like that of the nation's economy—they both depend upon public confidence. When the public's confidence in the economy is high, consumer purchases and business investment plans reflect this confidence. When the public's confidence in its educational system is strong, this confidence should be shown in financial support for education.

CHALLENGING THE FUTURE

Will we challenge the future? Will we challenge trends for the year 2000 that forecast shortfalls in educational attainment and quality of education and therefore unacceptable standards of living? Will we set goals for education, work to achieve them, and alter the future?

Southern Regional Education Board states have shown an unusual willingness to try new ideas to improve education. They have demonstrated the capability of making new investments in education—investments intended to achieve results. Since 1981 there have been many results that reflect substantial gains in education. Yet, to be consistently successful in national and international arenas, much remains to be done. In meeting this challenge, past trends and future demographics are working against many states. This has not deterred SREB states in the 1980s. In fact, it may have increased the resolve of state leaders to do more to improve education and to do it more quickly. And they have succeeded.

The twelve recommended goals in this document are intended to add to that resolve. They are intended to encourage an even deeper and more sustained commitment to educational improvement from pre-school through graduate school.

Goals for Education

CHALLENGE 2000